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VOLUME 20 NO. 2

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- OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION NAME CATALOG NUMBER SOURCE LAUNCH PERIOD MINUTES INCLINATION NATION APOGEE KM. PERIGEE KM. TRANSMITTING FREQ. (MHZ) NOTES

1958 LAUNCHES

BETA 1 10 US 17 MAR 130.0 34.3 4200 657
 BETA 2 6 US 17 MAR 133.0 34.3 3897 657
 BETA 3 1070 US 17 MAR 129.0 34.2 3501 657

1959 LAUNCHES

ALPHA 1 11 US 17 FEB 123.0 32.9 3141 557
 ALPHA 2 12 US 17 FEB 126.1 32.9 3517 560
 ETA 1 20 US 18 SEP 127.6 33.3 3523 515
 IOTA 1 24 US 13 OCT 99.7 50.3 949 537
 IOTA 2 23 US 13 OCT 96.0 50.3 652 478
 MU 1 112 JSSK 2 JAN HELIOCENTRIC ORBIT
 MU 2 113 US 3 MAR HELIOCENTRIC ORBIT

1960 LAUNCHES

ALPHA 1 27 US 11 MAR HELIOCENTRIC ORBIT 602
 BETA 1 28 US 1 APR 97.0 42.4 628 674
 BETA 2 29 US 1 APR 98.7 42.4 716 674
 BETA 3 115 US 1 APR 99.1 42.2 759 670
 BETA 4 45 US 22 JUN 101.1 42.7 1017 602
 ETA 1 46 US 22 JUN 100.7 42.7 990 595
 ETA 2 47 US 22 JUN 100.3 42.7 987 601
 ETA 3 48 US 22 JUN 99.7 42.7 906 577
 ETA 4 49 US 22 JUN 99.0 42.7 899 570
 IOTA 1 50 US 12 AUG 118.1 47.2 1084 1503
 IOTA 2 51 US 12 AUG 118.3 47.2 1084 1520
 IOTA 3 52 US 12 AUG CURRENT ELEMENTS NOT MAINTAINED
 IOTA 4 53 US 12 AUG 115.4 47.3 1030 1532
 IOTA 5 54 US 4 OCT 107.1 28.3 1216 966
 MU 1 55 US 4 OCT 106.9 28.2 1210 927
 MU 2 56 US 3 NOV 106.3 49.9 1702 400
 XI 1 62 US 3 NOV 90.9 49.9 355 285
 XI 2 63 US 23 NOV 97.2 48.5 668 584
 PI 1 74 US 23 NOV 94.7 48.5 519 495
 PI 2 75 US 23 NOV 95.0 48.5 555 518
 PI 3 5922 US 23 NOV 105.3 47.1 1030 977

1961 LAUNCHES

GAMMA 1 60 USSR 12 FEB HELIOCENTRIC ORBIT 2543 643
 DELTA 1 61 US 16 FEB 118.1 38.9 2645 597
 DELTA 2 62 US 16 FEB 112.1 39.9 2645 597
 DELTA 3 3927 US 16 FEB 113.2 38.9 2130 618
 DELTA 4 4026 US 16 FEB 113.5 38.9 2103 612
 DELTA 5 107 US 27 APR 105.8 28.8 1582 485
 DELTA 6 3739 US 27 APR 96.9 28.8 789 433

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INTER-NATIONAL DESIGNATION NAME CATALOG NUMBER SOURCE LAUNCH PERIOD MINUTES INCL. NATION APOGEE KM. PERIGEE KM. TRANSMITTING FREQ. (MHZ) NOTES

1961 LAUNCHES (CONT.)

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL. NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
OMICRON 1	TRANSIT 4A	116	US	29 JUN	103.6	66.8	982	878		
OMICRON 2	INJUNCTION 3	117	US	29 JUN	103.7	66.8	986	880		1*
OMICRON 3	271	134	US	29 JUN	103.7	67.2	963	899		1*
OMICRON 3A		134	US	29 JUN	103.1	60.7	979	832		
OMICRON 3B		132	US	12 JUL	100.2	47.9	801	730		
RHO 1	TIRUS 3	165	US	12 JUL	99.2	47.9	749	694		
RHO 2		164	US	12 JUL	96.9	46.0	669	654		
RHO 3		167	US	12 JUL	101.7	47.9	914	763		
RHO 4		163	US	12 JUL	101.4	91.2	3530	3344		
SIGMA 1	MIDAS 3	168	US	12 JUL	101.1	91.2	3531	3325		
SIGMA 3		168	US	12 JUL	101.4	91.2	3565	3361		
SIGMA 4		192	US	21 OCT	105.9	95.9	3760	3496		
A DELTA 1	MIDAS 4	194	US	21 OCT	105.8	95.9	3619	3394		
A DELTA 2		195	US	21 OCT	106.3	95.9	3674	3404		
A DELTA 3		2009	US	21 OCT	105.7	95.9	3732	3494		
A DELTA 4		2371	US	21 OCT	105.3	95.8	4645	2554		
A DELTA 5	TRANSIT 4B	202	US	19 NOV	105.8	92.4	1106	955		
A DELTA 6		205	US	15 NOV	105.5	92.4	1109	956		
A ETA 1	IRAAC	284	US	15 NOV	105.7	92.4	1098	991		
A ETA 2		10796	US	15 NOV	105.8	92.4	1109	950		

1962 LAUNCHES

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL. NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
ALPHA 1	RAVENS 3	221	US	26 JAN	HELIOCENTRIC ORBIT					
ALPHA 2		222	US	26 JAN	HELIOCENTRIC ORBIT					
BETA 1	TIRUS 4	226	US	8 FEB	100.1	48.3	824	700		
BETA 2		227	US	8 FEB	100.9	48.2	910	691		
BETA 3		225	US	8 FEB	96.6	48.4	710	668		
BETA 4		229	US	8 FEB	98.9	48.3	753	663		
KAPPA 1		271	US	9 APR	152.9	80.6	3405	2784		
KAPPA 2		273	US	9 APR	152.9	80.6	3373	2744		
KAPPA 3		274	US	9 APR	153.3	80.6	3419	2797		
KAPPA 4		282	US	23 APR	HELIOCENTRIC ORBIT					
A ALPHA 1	TIRUS 5	309	US	19 JUN	99.8	50.1	920	580		
A ALPHA 2		311	US	19 JUN	97.2	50.1	722	529		
A ALPHA 3		312	US	19 JUN	100.7	50.3	993	593		
A ALPHA 4		313	US	19 JUN	96.0	50.0	685	623		
A EPSILON 1	TELSTAR 1	340	US	10 JUL	157.8	44.8	8043	940		
A EPSILON 2		341	US	10 JUL	157.8	44.8	8630	943		
A UMICRON 1		369	US	23 AUG	98.7	98.6	794	594		
A UMICRON 2		376	US	23 AUG	98.3	98.3	784	571		
A UMICRON 3		385	US	23 AUG	97.7	98.6	724	570		
A UMICRON 4	MARINER 2	374	US	27 AUG	HELIOCENTRIC ORBIT					
A RHO 1		375	US	27 AUG	HELIOCENTRIC ORBIT					
A RHO 2		397	US	18 SEP	98.1	59.3	676	667		
A PSI 1	TIRUS 6	397	US	18 SEP	98.3	59.4	708	649		
A PSI 2		400	US	18 SEP	94.4	58.2	500	481		
A PSI 3		424	CANADA	29 SEP	105.3	80.5	1025	990		
A PSI 4		426	US	29 SEP	105.3	80.5	1021	993		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1962 LAUNCHES (CONT.)											
B ALPHA 3		510	US	29 SEP	105.2	30.5	1016	991			
B ALPHA 4		511	US	29 SEP	105.3	30.4	1033	984			
B GAMMA 2		MNA	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED						
B ETA 1	HANGER-5	439	US	18 OCT	HELIOCENTRIC ORBIT						
B ETA 2		440	US	18 OCT	HELIOCENTRIC ORBIT						
B LAMBDA 1	EXPLORER 16	446	US	27 OCT	CURRENT ELEMENTS NOT MAINTAINED						
B LAMBDA 2		MNA	US	27 OCT	CURRENT ELEMENTS NOT MAINTAINED						
B MU 1	ANNA 18	446	US	31 OCT	107.9	30.1	1182	1076			
B MU 2		447	US	31 OCT	107.6	50.1	1165	1066			
B MU 3		450	USSR	1 NOV	HELIOCENTRIC ORBIT						
B UPSILON 1	RELAY 1	503	US	13 DEC	135.1	47.5	7445	1314			
B UPSILON 2		513	US	13 DEC	134.9	47.5	7427	1314			
B CHI 1	EXPLORER 16	506	US	16 DEC	104.2	52.0	1168	746			
B PSI 1	TRANSIT SA	509	US	19 DEC	91.9	30.6	957	360			
B PSI 3		519	US	19 DEC	95.8	30.6	965	548			
1963 LAUNCHES											
1963 004A	SYNCOM 1	553	US	14 FEB	CURRENT ELEMENTS NOT MAINTAINED						
1963 004B	LUNA 4	556	USSR	2 APR	GARYCENTRIC ORBIT						
1963 013A	TELSTAR 2	573	US	7 MAY	225.3	42.8	10807	967			
1963 013B		575	US	7 MAY	226.9	42.8	10790	964			
1963 014A	ERS 5	574	US	9 MAY	166.4	87.3	3676	3608			
1963 014B		574	US	9 MAY	166.7	87.6	4206	3042			
1963 014C	ERS 6	608	US	9 MAY	166.4	87.3	3659	3624			
1963 014D	0140F		US	9 MAY	SEE NOTE 2*						
1963 022A		594	US	16 JUN	97.1	89.9	624	610			
1963 022B		603	US	16 JUN	98.1	89.9	680	657			
1963 022C		610	US	16 JUN	98.8	90.1	750	655			
1963 024A	TIROS 7	604	US	19 JUN	95.7	58.2	569	551			
1963 024C		606	US	19 JUN	93.2	58.3	439	424			
1963 026A		614	US	27 JUN	120.4	82.1	3668	329			
1963 030A	ERS 10	622	US	18 JUL	167.8	88.4	3716	3631			
1963 030B	ERS 9	639	US	19 JUL	167.6	88.4	3716	3681			
1963 030C		630	US	18 JUL	167.4	88.4	3792	3576			
1963 030E		631	US	18 JUL	168.2	88.4	3755	3676			
1963 030F		3121	US	18 JUL	166.5	87.7	3697	3602			
1963 030G		3132	US	18 JUL	167.8	87.6	3786	3613			
1963 031A	SYNCOM 2	634	US	26 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1963 031B		629	US	26 JUL	117.8	32.6	2696	270			
1963 038A		609	US	28 SEP	107.0	89.9	1106	1067			
1963 038B		670	US	28 SEP	107.2	89.9	1125	1064			
1963 038C	SN 39	671	US	28 SEP	107.2	89.9	1125	1065			
1963 039D		672	US	28 SEP	106.9	89.9	1093	1045			
1963 038E		745	US	28 SEP	106.7	89.8	1093	1054			
1963 038F		2037	US	28 SEP	106.8	89.9	1095	1042			
1963 038G		3166	US	28 SEP	107.2	89.9	1128	1064			
1963 034K		12443	US	28 SEP	104.8	87.9	1089	881			
1963 039A		674	US	17 OCT	CURRENT ELEMENTS NOT MAINTAINED						
1963 039C		692	US	17 OCT	CURRENT ELEMENTS NOT MAINTAINED						

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NATIONAL

OBJECTS IN ORBIT

DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL. NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1963 LAUNCHES (CONT.)											
1963 047A	CENTAUR 2	694	US	27 NOV	105.8	30.4	1088	473			
1963 047B	0475		US	27 NOV	SEC-NOTE		3*			3*	
1963 049A		703	US	5 DEC	106.7	90.0	1080	1059			
1963 049B		704	US	5 DEC	107.0	90.0	1111	1061			
1963 049C		705	US	5 DEC	106.9	90.0	1108	1061			
1963 049D		706	US	5 DEC	106.7	90.0	1093	1050			
1963 049E		715	US	5 DEC	106.2	90.0	1075	1026			
1963 049F		753	US	5 DEC	106.7	90.0	1100	1051			
1963 049G		2432	US	5 DEC	106.9	90.0	1109	1060			
1963 049H		2620	US	5 DEC	106.4	90.0	1074	1047			
1963 0530		721	US	19 DEC	115.4	76.6	2345	598			
1963 053C		722	US	19 DEC	112.2	76.6	2010	647			
1963 053E		724	US	19 DEC	111.7	76.7	1966	641			
1963 053G		726	US	19 DEC	110.3	76.6	1644	631			
1963 053H		732	US	19 DEC	112.0	78.7	1986	651			
1963 053J		750	US	19 DEC	113.2	76.7	1913	649			
1963 054A	TIRDS 8	710	US	21 DEC	98.9	58.5	720	687			
1963 054B		717	US	21 DEC	96.9	58.5	621	589			
1963 054C		720	US	21 DEC	100.3	58.5	875	680			
1964 LAUNCHES											
1964 001A		727	US	11 JAN	103.3	69.9	923	906			
1964 001B	GRAVITY GRADIENT 1	720	US	11 JAN	103.2	69.9	921	903			
1964 001C	SECUR (EGRS) 1	729	US	11 JAN	103.3	69.9	923	906			
1964 001D	SOLRAD 7A	730	US	11 JAN	103.3	69.9	923	906			
1964 001E	UMES	731	US	11 JAN	103.3	69.9	923	905			
1964 002A		733	US	19 JAN	100.9	99.0	826	776			
1964 002B		734	US	19 JAN	101.0	99.0	819	794			
1964 002C		735	US	19 JAN	101.1	99.0	822	795			
1964 003A	RELAY 2	737	US	21 JAN	194.7	40.4	7507	1994			
1964 003B		738	US	21 JAN	194.8	40.4	7513	1992			
1964 004C		741	US	25 JAN	108.8	81.5	1300	1041			
1964 004C		742	US	25 JAN	108.7	81.5	1296	1034			
1964 004D		743	US	25 JAN	108.7	81.5	1297	1031			
1964 006A	ELEKTROB 1	746	USSR	30 JAN	105.0	56.9	6755	414			
1964 006B	ELEKTROB 2	745	USSR	30 JAN	1350.4	66.6	58781	9641			
1964 006C		750	USSR	30 JAN	199.2	60.8	5475	483			
1964 006D		751	USSR	30 JAN	1384.1	67.0	59585	9938			
1964 006E		14427	USSR	30 JAN	135.7	66.8	4171	395			
1964 006F		14428	USSR	30 JAN	130.6	66.8	3905	368			
1964 006G		16796	USSR	30 JAN	133.0	66.8	4117	389			
1964 006H		16544	USSR	30 JAN	134.4	60.7	4232	397			
1964 006J		16545	USSR	30 JAN	133.9	60.8	4199	390			
1964 006K		16546	USSR	30 JAN	134.3	60.8	4274	388			
1964 006L		16547	USSR	30 JAN	134.9	60.8	4274	392			
1964 006M		16548	USSR	30 JAN	135.4	60.8	4327	384			
1964 0150	ZENOB 1	705	USSR	2 APR	HELIOCENTRIC ORBIT						
1964 026A		801	US	4 JUN	102.3	90.5	914	839			
1964 026B		805	US	4 JUN	102.0	90.0	920	854			

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION NAME NUMBER SOURCE LAUNCH PERIOD MINUTES INCLIN. NATION APOGEE KM. PERIGEE KM. TRANSMITTING FREQ. (MHZ) NOTES

1964 LAUNCHES (CONT.)

1964 020C		006	US	4 JUN	100.0	90.8	846	729
1964 020D		005	US	4 JUN	102.7	90.5	842	841
1964 020E		200	US	4 JUN	102.3	90.5	834	844
1964 020F		1300	US	4 JUN	98.2	90.5	825	850
1964 031A		012	US	13 JUN	101.3	99.0	825	818
1964 031B		013	US	18 JUN	101.4	99.8	827	819
1964 031C		015	US	18 JUN	101.2	99.3	825	808
1964 031D	ELEMENT 3	024	USSR	10 JUL	100.4	80.8	803	412
1964 031E		031	USSR	10 JUL	147.8	80.8	5359	402
1964 040A		036	US	17 JUL	147.8	CURRENT ELEMENTS NOT MAINTAINED		
1964 040B		037	US	17 JUL	147.8	CURRENT ELEMENTS NOT MAINTAINED		
1964 041A		043	US	20 JUL	147.8	BARYCENTRIC ORBIT		
1964 041B	SYRCLM 3	050	US	19 AUG	147.8	CURRENT ELEMENTS NOT MAINTAINED		
1964 041C		062	US	19 AUG	147.8	CURRENT ELEMENTS NOT MAINTAINED		
1964 041D	COSMOS 41	059	USSR	22 AUG	714.5	71.0	37145	3049
1964 041E		070	USSR	22 AUG	716.7	71.1	37317	2983
1964 041F		13091	USSR	22 AUG	714.4	71.1	37674	2307
1964 041A	EXPLORER 20	073	US	25 AUG	103.7	79.9	1007	850
1964 051A		071	US	25 AUG	103.4	79.9	990	851
1964 051B		070	USSR	25 AUG	99.0	65.1	734	889
1964 051C		077	USSR	25 AUG	99.2	65.1	734	850
1964 051D	0001	073	US	9 SEP	100.2	CURRENT ELEMENTS NOT MAINTAINED		
1964 051E	NASJ 30010	073	US	6 OCT	100.2	90.0	1071	1028
1964 051F		077	US	6 OCT	100.4	89.9	1073	1050
1964 051G		003	US	6 OCT	105.7	89.9	1051	1016
1964 051H		001	US	6 OCT	106.4	90.0	1071	1050
1964 051I		002	US	6 OCT	106.5	89.9	1074	1052
1964 051J		003	US	6 OCT	105.8	89.9	1045	1017
1964 051K	EXPLORER 22	099	US	10 OCT	104.5	79.7	1001	877
1964 051L		007	US	10 OCT	104.5	79.7	1003	879
1964 051M		070	US	10 OCT	103.4	79.3	1021	913
1964 051N		077	US	10 OCT	103.0	80.0	1008	894
1964 071A	MARINER 3	023	US	5 NOV	HELIOCENTRIC ORBIT			
1964 071B	EXPLORER 23	042	US	21 NOV	115.2	61.4	2401	524
1964 071C		033	US	21 NOV	114.7	61.3	2350	520
1964 071D		009	US	21 NOV	100.7	81.3	1092	493
1964 071E	MARINER 4	033	US	28 NOV	HELIOCENTRIC ORBIT			
1964 071F		042	US	28 NOV	HELIOCENTRIC ORBIT			
1964 071G	ZORRO 2	045	USSR	30 NOV	HELIOCENTRIC ORBIT			
1964 071H	NASJ 30020	053	US	13 DEC	100.0	89.8	1006	1010
1964 071I		056	US	13 DEC	100.9	89.8	1004	1005
1964 071J		059	US	13 DEC	100.0	89.8	1071	1011
1964 071K		065	US	13 DEC	100.2	89.3	1079	1019
1964 071L		067	US	13 DEC	100.9	89.8	1066	1006
1964 071M		1099	US	13 DEC	100.0	89.8	1071	1011
1964 071N		1008	US	13 DEC	100.9	89.8	1045	990
1964 080A	EXPLORER 20	053	US	21 DEC	HELIOCENTRIC ORBIT			

1965 LAUNCHES

OBJECTS IN ORBIT

INTEK DESIGNATION	NAME	NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1905 004A	TIKOS 9	978	US	22 JAN	117.0	90.4	2569	702			
1905 004B		979	US	22 JAN	113.9		2562	701			
1905 004C		1312	US	22 JAN	117.7	90.4	2479	671			
1905 004D		1311	US	22 JAN	120.1	78.4	2645	724			
1905 007A	USO 1	987	US	3 FEB	93.0	32.0	407	435			
1905 008A		1001	US	11 FEB	145.4	32.1	2747	2760			
1905 008B		1000	US	11 FEB	145.7	32.1	2802	2784			
1905 008C		1002	US	11 FEB	145.3	32.1	2609	2783			
1905 0100		1287	US	17 FEB	BARYCENTRIC ORBIT						
1905 010A	Quadrus 34	1227	USSR	26 FEB	145.8	68.0	620	474			
1905 0140		1020	USSR	29 FEB	92.0	65.0	431	364			
1905 010A	ORBIT	1271	US	9 MAR	103.3	70.1	930	897			
1905 010B	GRAVITY GRADIENT 2	1244	US	9 MAR	103.3	70.1	933	898			
1905 010C	GRAVITY GRADIENT 3	1242	US	9 MAR	103.2	70.1	925	892			
1905 010D	SOLRAD 7c	1291	US	9 MAR	103.4	70.1	935	899			
1905 010E	VEGA (TRANS)	1209	US	9 MAR	103.3	70.1	931	897			
1905 010F	USCAR 3	1293	US	9 MAR	103.0	70.1	910	886			
1905 010H	SURCAL	1242	US	9 MAR	103.4	70.1	935	899			
1905 010J		1245	US	9 MAR	103.3	70.1	930	895			
1905 010K		1299	US	9 MAR	103.2	70.1	926	893			
1905 020L		1335	USSR	15 MAR	107.8	56.1	1061	587			
1905 020M		1344	USSR	15 MAR	107.8	56.1	1061	587			
1905 020N		1347	USSR	15 MAR	105.8	56.0	1499	559			
1905 020O		1379	USSR	15 MAR	103.0	56.1	1496	547			
1905 020P		1372	USSR	15 MAR	100.0	56.0	1618	498			
1905 020Q		1392	USSR	15 MAR	103.7	56.4	1633	534			
1905 020R		1477	USSR	15 MAR	112.4	55.5	1635	835			
1905 020S		1478	USSR	15 MAR	110.8	56.1	1682	647			
1905 020T		1479	USSR	15 MAR	115.1	56.0	2106	807			
1905 020U		1490	USSR	15 MAR	115.0	56.1	2149	759			
1905 020V		1495	USSR	15 MAR	106.3	55.0	1478	631			
1905 020W		1547	USSR	15 MAR	114.7	56.2	2099	780			
1905 020X		1597	USSR	15 MAR	77.9	56.0	612	501			
1905 020Y		1634	USSR	15 MAR	110.9	56.1	2182	813			
1905 020Z		2334	USSR	15 MAR	111.1	55.7	1760	789			
1905 020A		2434	USSR	15 MAR	115.3	55.0	1764	1184			
1905 020B		3036	USSR	15 MAR	110.0	56.3	1804	585			
1905 020C		3700	USSR	15 MAR	100.4	50.4	1492	631			
1905 020D		3743	USSR	15 MAR	113.2	56.7	1608	1386			
1905 020E		3746	USSR	15 MAR	113.7	56.0	1693	1348			
1905 020F		3749	USSR	15 MAR	108.6	50.1	1714	631			
1905 020G		3931	USSR	15 MAR	116.0	56.1	1700	1357			
1905 020H		3953	USSR	15 MAR	101.7	55.9	1102	514			
1905 020I		3968	USSR	15 MAR	117.9	50.3	1793	1380			
1905 020J		4252	USSR	15 MAR	117.1	56.0	1697	1406			
1905 020K		1917	USSR	16 MAR	110.2	56.6	1742	731			
1905 021A		1273	US	18 MAR	94.4	99.0	936	443			
1905 021B		1246	US	21 MAR	HELIOCENTRIC ORBIT						
1905 027A		1314	US	3 APR	111.4	90.3	1315	1270			
1905 027B		1316	US	3 APR	111.4	90.3	1312	1266			

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION NAME CATALOG NUMBER SOURCE LAUNCH PERIOD MINUTES INCLINATION NATION APORSEE KM. PERIGEE KM. TRANSMITTING FREQ. (MHZ) NOTES

1965 LAUNCHES (CONT.)

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	NATION	APORSEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1965 027C		1316	US	3 APR	110.7	90.3		1290	1227		
1965 027D		1309	US	3 APR	110.7	90.2		1202	1235		
1965 027E		1399	US	3 APR	100.3	90.5		827	722		
1965 027F		14031	US	3 APR	111.4	90.3		1311	1209		
1965 027G		12102	US	3 APR	111.4	90.3		1319	1262		
1965 027H		13131	US	3 APR	111.3	90.3		1305	1270		
1965 027J		14047	US	3 APR	111.4	90.3		1314	1266		
1965 027K		14048	US	3 APR	111.3	90.3		1309	1260		
1965 027L		14049	US	3 APR	111.4	90.3		1312	1270		
1965 027M		14050	US	3 APR	111.4	90.3		1315	1265		
1965 027N		14715	US	3 APR	111.4	90.3		1312	1271		
1965 027P		14710	US	3 APR	111.4	90.3		1310	1267		
1965 027Q		14717	US	3 APR	111.4	90.3		1312	1269		
1965 027R		13340	US	3 APR	111.4	90.3		1314	1269		
1965 028A	EARLY BIRD	1317	ITSU	6 APR							CURRENT ELEMENTS NOT MAINTAINED
1965 028B	EXPLORER 27	1314	US	6 APR							CURRENT ELEMENTS NOT MAINTAINED
1965 032B		1325	US	29 APR	107.0	41.2		1312	930	136.740	4*
1965 032C		1328	US	29 APR	107.0	41.2		1315	934		
1965 032D		1325	US	29 APR	100.5	41.1		1040	552		
1965 032E		2011	US	29 APR	100.0	41.2		1314	937		
1965 034A		1339	US	6 MAY	107.1	32.1		3744	2780		
1965 034B		1300	US	6 MAY	109.9	32.1		14794	2780		
1965 034C		1361	US	6 MAY	145.0	32.1		2795	2780		
1965 034D		2529	US	6 MAY	109.9	32.1		14793	2780		
1965 038A		1377	US	20 MAY	98.3	98.3		830	527		
1965 038B		1376	US	20 MAY	97.0	98.1		760	511		
1965 038C		1401	US	20 MAY	95.4	98.3		617	457		
1965 038D		1475	US	20 MAY	93.0	97.9		483	406		
1965 039B		1355	US	25 MAY	93.9	31.7		508	422		
1965 044A	COMA 6	1393	USSR	4 JUN							HELIOCENTRIC ORBIT
1965 049A	MNSS 30040	1420	US	24 JUN	106.7	90.0		1120	1019		
1965 049B		1429	US	24 JUN	106.0	90.0		1100	1020		
1965 048C		1425	US	24 JUN	106.8	90.0		1131	1022		
1965 048D		1435	US	24 JUN	106.2	90.0		1105	992		
1965 048E		2701	US	24 JUN	105.2	90.0		1092	1005		
1965 048F		3592	US	24 JUN	106.2	90.0		1094	1007		
1965 048G		11952	US	24 JUN	102.3	89.9		913	819		
1965 048H		11953	US	24 JUN	102.2	89.9		905	815		
1965 051A	TIROS 10	1430	US	2 JUL	100.3	98.0		810	730		
1965 051B		1433	US	2 JUL	100.0	98.4		799	720		
1965 051C		1440	US	2 JUL	97.3	98.5		698	558		
1965 051D		1529	US	2 JUL	101.5	99.0		807	803		
1965 050A	ZUNO 3	1454	JSSR	16 JUL							HELIOCENTRIC ORBIT
1965 059A		1450	US	20 JUL							CURRENT ELEMENTS NOT MAINTAINED
1965 059B		1459	US	20 JUL							CURRENT ELEMENTS NOT MAINTAINED
1965 063A	SECUR (T-997)	1506	US	10 AUG	122.2	89.2		2421	1133		
1965 063B		1502	US	10 AUG	122.2	89.2		2420	1139		
1965 064A	CONFUR 6	1503	US	11 AUG							BARICENTRIC ORBIT
1965 063A	MNSS 30050	1504	US	13 AUG	107.3	90.0		1175	1074		
1965 063B		1505	US	13 AUG	107.0	89.9		1140	1085		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1965 LAUNCHES (CONT.)										
1965 065C		1510	US	13 AUG	106.5	90.0	1113	1016		
1965 065D		1611	US	13 AUG	108.0	90.0	1185	1080		
1965 065E		1512	US	13 AUG	108.0	90.0	1185	1082		
1965 065F		1514	US	13 AUG	108.0	90.0	1184	1079		
1965 065G		1515	US	13 AUG	107.5	90.0	1150	1059		
1965 065H		1520	US	13 AUG	107.7	90.0	1183	1078		
1965 065J		1521	US	13 AUG	108.0	90.0	1195	1082		
1965 065K		1577	US	13 AUG	107.0	90.0	1183	1077		
1965 065L		1522	US	13 AUG	106.0	90.0	1187	1081		
1965 066A		1610	US	13 AUG	107.5	90.0	1183	1086		
1965 065J		5255	US	13 AUG	107.5	89.9	1154	1093		
1965 066I		1156	US	13 AUG	109.1	90.0	1156	946		
1965 070A	COSMUS 80	1570	USSR	3 SEP	115.0	50.1	1540	1360		
1965 070B	COSMUS 81	1671	USSR	3 SEP	115.0	50.1	1540	1393		
1965 070C	COSMUS 82	1572	USSR	3 SEP	115.7	50.1	1534	1416		
1965 070D	COSMUS 83	1573	USSR	3 SEP	116.0	50.1	1563	1441		
1965 070E	COSMUS 84	1574	USSR	3 SEP	116.4	50.1	1571	1467		
1965 070F		1575	USSR	3 SEP	114.0	50.1	1519	1350		
1965 070G		3045	USSR	3 SEP	115.9	55.5	1730	1264		
1965 072A		1600	US	10 SEP	101.4	98.9	1612	640		
1965 072B		1503	US	10 SEP	100.8	98.8	900	629		
1965 072C		1931	US	10 SEP	102.4	98.7	1100	635		
1965 072F		1932	US	10 SEP	99.1	98.5	822	611		
1965 073A	COSMUS 86	1684	USSR	10 SEP	115.0	50.1	1526	1288		
1965 073B	COSMUS 87	1535	USSR	10 SEP	115.4	50.1	1633	1313		
1965 073C	COSMUS 88	1586	USSR	10 SEP	115.0	50.1	1651	1334		
1965 073D	COSMUS 89	1587	USSR	10 SEP	116.2	50.1	1662	1360		
1965 073E	COSMUS 90	1588	USSR	10 SEP	116.7	50.1	1672	1387		
1965 073F		1589	USSR	10 SEP	116.3	50.1	1681	1391		
1965 073G		1590	USSR	10 SEP	116.1	50.1	1643	1366		
1965 073H		1591	USSR	10 SEP	116.4	50.1	1658	1376		
1965 073I		1617	USSR	10 SEP	117.2	50.1	1744	1362		
1965 073K		1513	USSR	10 SEP	117.4	55.2	1743	1353		
1965 073L		2647	USSR	10 SEP	116.0	50.1	1650	1352		
1965 078A		1613	US	5 OCT	120.5	144.3	2997	410		
1965 078B		1610	US	5 OCT	119.0	144.3	2910	412		
1965 081B		1625	US	14 OCT	92.7	87.3	498	335		
1965 082B	0820L		US	19 OCT	SEE NOTE					
1965 089A	EXPLORER 29	1720	US	6 NOV	120.3	59.4	2273	1113		
1965 089B		1729	US	6 NOV	120.3	59.4	2269	1116		
1965 089C		2700	US	6 NOV	119.2	59.6	2219	1065		
1965 089D		2688	US	6 NOV	121.3	59.2	2325	1152		
1965 091A	VENERA 2	1730	USSR	12 NOV						
1965 092B		1736	USSR	10 NOV						
1965 093A	EXPLORER 30	1733	US	19 NOV	100.4	59.7	885	672		
1965 093B		1739	US	19 NOV	100.2	59.7	850	684		
1965 093C		2613	US	19 NOV	99.0	59.7	761	663		
1965 093D		2684	US	19 NOV	100.6	59.7	804	707		
1965 096A	A-1	1773	FRANCE	25 NOV	108.0	34.3	1730	529		
1965 096B		1605	FRANCE	29 NOV	107.2	34.3	1660	526		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	CATALOG NAME	NUMBER SOURCE	LAUNCH	PERIOD MINUTES	INCLIN NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES	
1965 LAUNCHES (CONT.)										
1965 096D		1996 FRANCE	26 NOV	104.3	34.3	1407	517			
1965 098A	ALOUETTE 2	1904 CANADA	29 NOV	119.4	79.8	2802	502			
1965 098B	EXPLORER 31	1806 US	29 NOV	120.5	79.8	2907	502			
1965 098C		1807 US	29 NOV	119.8	79.8	2838	502			
1965 098D		1808 US	29 NOV	112.1	79.8	2152	492			
1965 098E		1944 US	29 NOV	111.5	79.8	2101	488			
1965 098F		1948 US	29 NOV	116.3	79.9	2523	502			
1965 098G		1961 US	29 NOV	116.2	79.7	2626	493			
1965 098H		2092 US	29 NOV	119.5	79.9	2812	502			
1965 098J		2183 US	29 NOV	119.3	79.8	2797	504			
1965 101A	FR-1	1614 FRANCE	6 DEC	99.3	75.9	728	717			
1965 101B		1816 US	6 DEC	99.2	75.9	725	713			
1965 105A	PIIONEER 6	1841 US	16 DEC	HELIOCENTRIC ORBIT						
1965 106A	COSMOS 100	1843 USSR	17 DEC	96.4	65.0	646	529			
1965 106B		1844 USSR	17 DEC	96.2	65.0	590	565			
1965 109A	MINUS 30060	1864 US	22 DEC	104.7	89.1	1067	897			
1965 109B		1865 US	22 DEC	104.8	89.1	1070	899			
1965 109C		2086 US	22 DEC	102.0	89.1	876	828			
1965 109D		2226 US	22 DEC	106.9	89.1	1277	890			
1965 109E		2363 US	22 DEC	106.1	89.6	1114	881			
1965 112A	COSMOS 103	1868 USSR	28 DEC	94.3	50.1	499	474			
1965 1120		1937 USSR	28 DEC	96.7	55.9	573	528			
1966 LAUNCHES										
1966 005A	MINUS 30070	1952 US	28 JAN	105.6	89.8	1192	854			
1966 005B		1953 US	28 JAN	105.7	89.8	1199	854			
1966 005C		2140 US	28 JAN	107.4	90.1	1369	861			
1966 005D		2141 US	28 JAN	103.7	89.8	1043	827			
1966 005E		2489 US	28 JAN	109.4	89.8	1332	1069			
1966 005F		2989 US	28 JAN	103.9	89.8	1036	844			
1966 005J		11991 US	28 JAN	106.8	89.8	1181	849			
1966 005K		14226 US	28 JAN	104.2	89.8	1115	793			
1966 005L		16341 US	28 JAN	104.9	89.8	1140	841			
1966 006D		2001 USSR	31 JAN	BARYCENTRIC ORBIT						
1966 008A	ESSA 1	1982 US	3 FEB	99.9	97.8	619	689			
1966 008B		1983 US	3 FEB	99.8	97.9	818	676			
1966 008C		2085 US	3 FEB	97.9	97.9	678	632			
1966 008D		2118 US	3 FEB	100.7	98.0	906	676			
1966 008E		2184 US	3 FEB	99.6	97.8	788	688			
1966 013A	D-1A	2016 FRANCE	17 FEB	116.9	34.1	2575	504			
1966 013B		2017 FRANCE	17 FEB	116.2	34.1	2616	603			
1966 013F		2023 FRANCE	17 FEB	105.6	34.0	1586	461			
1966 013G		2161 FRANCE	17 FEB	112.6	34.1	2168	610			
1966 013N		14844 FRANCE	17 FEB	98.4	34.0	921	439			
1966 013P		14846 FRANCE	17 FEB	100.6	34.0	1123	452			
1966 016A	ESSA 2	2091 US	28 FEB	113.4	101.1	1412	1353			
1966 016B		2096 US	28 FEB	113.4	100.9	1413	1351			
1966 016C		2223 US	28 FEB	111.8	101.3	1382	1238			
1966 016D		2224 US	28 FEB	115.0	101.0	1563	1346			

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1966 LAUNCHES (CONT.)										
1966 016E		6214	US	28 FEB	114.3	101.4	1514	1331		
1966 024A	NNSS 30080	2119	US	25 MAR	105.0	89.9	1100	889		
1966 024B		2120	US	26 MAR	105.1	89.9	1110	887		
1966 024E		12056	US	26 MAR	99.8	89.8	796	697		
1966 025A	OV1-4	2121	US	30 MAR	104.0	144.5	1011	887		
1966 025B	OV1-5	2122	US	30 MAR	105.6	144.6	1058	907		
1966 025C		2123	US	30 MAR	105.6	144.6	1058	988		
1966 026B		2124	US	30 MAR	104.0	144.6	1009	888		
1966 025E		3611	US	30 MAR	103.8	144.6	1000	874		
1966 025G		5361	US	30 MAR	104.4	144.6	996	931		
1966 025H		5599	US	30 MAR	103.8	144.6	994	880		
1966 026A		2125	US	31 MAR	99.8	98.6	883	613		
1966 026B		2129	US	31 MAR	98.7	98.4	808	588		
1966 026B		2177	US	31 MAR	101.0	90.9	1004	608		
1966 026F		2179	US	31 MAR	97.9	98.3	747	572		
1966 027A	LUNA 10	2126	USSR	31 MAR	SELENGENTRIC ORBIT					
1966 027D		2130	USSR	31 MAR	HELIOCENTRIC ORBIT					
1966 027E		2131	USSR	31 MAR	BARYCENTRIC ORBIT					
1966 027F		2132	USSR	31 MAR	BARYCENTRIC ORBIT					
1966 031A	GAO 1	2142	US	8 APR	100.0	35.0	800	700		
1966 031B		2144	US	8 APR	100.5	35.0	789	775		
1966 034A	OVJ-1	2150	US	22 APR	138.9	82.4	4670	340		
1966 034B		2167	US	22 APR	126.3	82.4	3580	336		
1966 034B		2209	US	22 APR	108.2	82.3	1981	302		
1966 038A	COSMOS 118	2168	USSR	11 MAY	93.1	65.0	443	411		
1966 038B		2109	USSR	11 MAY	93.9	65.0	496	432		
1966 040A	NIMBUS 2	2173	US	15 MAY	108.0	100.3	1176	1091		
1966 040B		2174	US	15 MAY	107.8	100.4	1167	1082		
1966 041A	NNSS 30090	2176	US	19 MAY	103.0	89.9	961	841		
1966 041B		2180	US	19 MAY	103.1	89.9	966	846		
1966 041C		2225	US	19 MAY	99.9	89.9	788	721		
1966 041D		2644	US	19 MAY	105.2	89.9	1170	834		
1966 041E		3591	US	19 MAY	103.0	89.9	961	842		
1966 041F		4555	US	19 MAY	102.4	89.9	927	818		
1966 045B		2187	US	30 MAY	BARYCENTRIC ORBIT					
1966 049A	060-3	2195	US	7 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1966 052A		2201	US	10 JUN	143.0	40.8	4716	642		
1966 052B		2206	US	10 JUN	142.7	40.8	4694	642		
1966 052C		2498	US	10 JUN	139.4	40.6	4472	583		
1966 052D		2516	US	10 JUN	144.0	41.0	4806	706		
1966 053A		2207	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1966 053B		2215	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1966 053C		2216	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1966 053D		2217	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1966 053E		2218	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1966 053F		2219	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1966 053G		2220	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1966 053H		2221	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1966 053J		2222	US	16 JUN	1351.8	11.3	34538	33699		
1966 056A	PAGEOS 1	2253	US	24 JUN	170.4	85.4	4539	3697		

OBJECTS IN ORBIT

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 NATIONAL CATALOG PERIOD INCL. APOGEE PERIGEE TRANSMITTING
 DESIGNATION NAME NUMBER SOURCE LAUNCH MINUTES NATION KM. KM. FREQ. (MHZ) NOTES

1966 LAUNCHES (CONT.)

1966 056B		2255	US	24 JUN	181.1	87.0	4278	4174	
1966 056C		2266	US	24 JUN	181.3	86.9	4273	4194	
1966 056D		2511	US	24 JUN	181.5	87.0	4254	4224	
1966 056E		8064	US	24 JUN	177.2	86.3	6670	1465	
1966 056G		8066	US	24 JUN	177.4	85.2	6552	1609	
1966 056H		8074	US	24 JUN	178.1	85.8	6053	2163	
1966 056I		9460	US	24 JUN	177.9	85.8	6221	1977	
1966 056J		9466	US	24 JUN	178.4	86.1	4222	4015	
1966 056K		9468	US	24 JUN	176.3	85.2	7037	1039	
1966 056L		13796	US	24 JUN	164.6	85.4	4578	2561	
1966 057A	COSMOS 122	2254	USSR	25 JUN	94.3	65.0	509	457	
1966 058A	EXPLORER-33	2268	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1966 058C		2260	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED				
1966 063B		2327	US	14 JUL	104.5	144.2	981	959	
1966 063C		2328	US	14 JUL	105.3	144.2	1013	999	
1966 063D		2329	US	14 JUL	104.9	144.2	996	979	
1966 063E		2337	US	14 JUL	105.2	144.2	1009	1001	
1966 070A	OV3-3	2389	US	4 AUG	126.8	81.4	3609	353	
1966 070B		2404	US	4 AUG	111.9	81.4	2286	338	
1966 070C		2800	US	4 AUG	130.6	81.6	3879	414	
1966 073B		2395	US	10 AUG	BARYCENTRIC ORBIT				
1966 075A	PIONEER 7	2398	US	17 AUG	HELIOCENTRIC ORBIT				
1966 075C		2402	US	17 AUG	HELIOCENTRIC ORBIT				
1966 076A	MN65 30100	2401	US	18 AUG	106.6	89.9	1091	1043	
1966 076B		2413	US	18 AUG	106.6	88.9	1093	1046	
1966 076C		2680	US	19 AUG	105.0	89.2	1068	918	
1966 076D		2702	US	18 AUG	108.1	88.6	1203	1072	
1966 077A		2403	US	19 AUG	167.4	89.8	3706	3650	
1966 077B	SECOR (EGRS) 7	2411	US	19 AUG	167.5	89.8	3696	3674	
1966 077C	ERG 16	2412	US	19 AUG	167.6	89.8	3698	3691	
1966 078A	LUNA 11	2406	USSR	24 AUG	SELENOCENTRIC ORBIT				
1966 082A		2418	US	16 SEP	100.4	98.7	871	680	
1966 082B		2422	US	16 SEP	100.3	98.7	868	679	
1966 084B		2426	US	20 SEP	BARYCENTRIC ORBIT				
1966 087A	ESSA 3	2435	US	2 OCT	114.5	101.1	1484	1384	
1966 087B		2436	US	2 OCT	114.5	101.0	1484	1380	
1966 087C		2518	US	2 OCT	115.9	100.8	1558	1429	
1966 087D		2776	US	2 OCT	113.2	101.2	1471	1277	
1966 087E		6213	US	2 OCT	113.6	101.9	1420	1367	
1966 087F		8791	US	2 OCT	CURRENT ELEMENTS NOT MAINTAINED				
1966 089A		2481	US	5 OCT	167.5	90.2	3716	3661	
1966 089B	SECOR (EGRS) 8	2620	US	5 OCT	167.6	90.2	3703	3679	
1966 094A	LUNA 12	2508	USSR	22 OCT	SELENOCENTRIC ORBIT				
1966 095B		2613	US	26 OCT	BARYCENTRIC ORBIT				
1966 096A	INTELSAT 2 F-1	2514	ITSO	26 OCT	719.1	18.0	37157	3263	
1966 096C		11792	US	26 OCT	521.4	17.6	29737	424	
1966 110B	ATS 1	2608	US	7 DEC	1434.8	12.0	35795	35729	136.460.137.350 4*
1966 111A	OV1-9	2610	US	11 DEC	140.7	99.1	4696	471	
1966 111B	OV1-10	2611	US	11 DEC	97.5	93.4	687	594	
1966 111C		2621	US	11 DEC	98.2	93.4	728	617	

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1966 1110		2622	US	11 DEC	140.3	99.1	4655	472		
1967 LAUNCHES										
1967 001A	INTELSAT 2 F-2	2639	ITSO	11 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 0010		2643	US	11 JAN	494.8	26.8	26126	297		
1967 0015		5987	US	11 JAN	521.5	26.4	29678	490		
1967 0017		5998	US	11 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 001V		5990	US	11 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 001W		5998	US	11 JAN	442.3	29.8	26432	271		
1967 001X		6779	US	11 JAN	656.8	28.5	36660	643		
1967 001AM		14756	US	11 JAN	496.6	26.8	23382	219		
1967 003A		2645	US	18 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 003B		2649	US	18 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 003C		2650	US	18 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 003D		2651	US	18 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 003E		2652	US	18 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 003F		2653	US	18 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 003G		2654	US	18 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 003H		2655	US	18 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 003J		2660	US	18 JAN			CURRENT ELEMENTS NOT MAINTAINED			
1967 006A	ESSA 4	2657	US	26 JAN	113.4	101.9	1438	1323		
1967 006B		2661	US	26 JAN	113.6	102.0	1439	1339		
1967 006C		2706	US	26 JAN	114.2	102.2	1446	1391		
1967 006D		2707	US	26 JAN	112.6	101.8	1459	1229		
1967 006E		6071	US	26 JAN	113.1	101.9	1455	1279		
1967 010A		2669	US	8 FEB	101.2	98.9	855	777		
1967 010B		2741	US	8 FEB	101.2	98.9	858	773		
1967 011A	DIADEME 1	2674	FRANCE	8 FEB	102.5	40.0	1198	558		
1967 011B		2671	FRANCE	8 FEB	103.1	40.0	1247	562		
1967 011H		2689	FRANCE	8 FEB	99.2	40.0	931	505		
1967 011L		2692	FRANCE	8 FEB	96.8	40.0	726	484		
1967 014A	DIADEME 2	2680	FRANCE	15 FEB	109.2	39.5	1791	589		
1967 014B		2682	FRANCE	15 FEB	109.6	39.4	1824	589		
1967 014C		2684	FRANCE	15 FEB	108.2	40.0	1710	572		
1967 014E		2685	FRANCE	15 FEB	107.4	39.0	1636	571		
1967 014J		14505	FRANCE	15 FEB	110.2	38.9	1918	557		
1967 014K		14633	FRANCE	16 FEB	103.4	39.4	1285	650		
1967 014L		15531	FRANCE	15 FEB	103.2	39.5	1267	548		
1967 018B		2696	USSR	28 FEB	93.8	81.2	496	421		
1967 026A	INTELSAT 2 F-3	2717	ITSO	23 MAR			CURRENT ELEMENTS NOT MAINTAINED			
1967 027A	COSMOS 161	2720	USSR	24 MAR	96.1	66.0	643	508		
1967 027B		2721	USSR	24 MAR	92.9	56.1	421	412		
1967 034A	NMSS 30120	2754	US	14 APR	106.3	90.2	1071	1038		
1967 034B		2755	US	14 APR	106.4	90.2	1076	1042		
1967 034C		2777	US	14 APR	103.6	90.2	1037	821		
1967 034D		2778	US	14 APR	108.4	90.3	1248	1053		
1967 034E		4843	US	14 APR	106.7	90.4	1097	1049		
1967 035B		2764	US	17 APR			BARYCENTRIC ORBIT			
1967 036A	ESSA 5	2757	US	20 APR	113.6	101.8	1419	1353		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN- ATION	APGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1967 LAUNCHES (CONT.)											
1967 0355		2759	US	20 APR	113.5	101.8	1417	1354			
1967 0366		2760	US	20 APR	112.9	102.1	1467	1258			
1967 0368		2771	US	20 APR	114.0	101.4	1481	1395			
1967 0374	COSMOS 155	2762	USSR	27 APR	94.1	81.2	484	468			
1967 0378		2763	USSR	27 APR	95.1	81.2	567	482			
1967 0404		2765	US	28 APR	CURRENT ELEMENTS NOT MAINTAINED						
1967 0405		2766	US	28 APR	CURRENT ELEMENTS NOT MAINTAINED						
1967 0406	ERS 18	2767	US	28 APR	CURRENT ELEMENTS NOT MAINTAINED						
1967 0407	ERS 20	2768	US	28 APR	CURRENT ELEMENTS NOT MAINTAINED						
1967 0408	ERS 27	2769	US	28 APR	CURRENT ELEMENTS NOT MAINTAINED						
1967 0409		2770	US	28 APR	CURRENT ELEMENTS NOT MAINTAINED						
1967 0436		2780	US	9 MAY	96.3	84.9	659	536			
1967 0454	COSMOS 158	2801	USSR	15 MAY	100.3	74.0	815	730			
1967 0458		2802	USSR	15 MAY	100.3	74.0	825	716			
1967 0459		2823	USSR	15 MAY	98.5	74.0	718	657			
1967 0460		2757	USSR	15 MAY	97.3	74.0	655	604			
1967 0454	INSS 30130	2807	US	18 MAY	106.3	89.7	1074	1060			
1967 0484		2811	US	19 MAY	105.5	89.7	1094	1055			
1967 0534		2826	US	31 MAY	102.4	70.0	877	853			
1967 0535		2825	US	31 MAY	103.2	70.0	915	908			
1967 0536	GRAVITY GRADIENT 4	2828	US	31 MAY	103.2	70.0	915	907			
1967 0537	GRAVITY GRADIENT 3	2834	US	31 MAY	103.3	70.0	916	909			
1967 0538		2847	US	31 MAY	103.1	70.0	906	902			
1967 0539		2872	US	31 MAY	103.2	70.0	913	905			
1967 0539		2873	US	31 MAY	103.2	70.0	915	907			
1967 0540		2874	US	31 MAY	103.3	70.0	916	909			
1967 0541	MARINER 5	2895	US	31 MAY	102.2	70.0	863	861			
1967 0542		2897	US	14 JUN	HELIOCENTRIC ORBIT						
1967 0543		2898	US	14 JUN	HELIOCENTRIC ORBIT						
1967 0544	SEGA (TRANS) 4	2861	US	29 JUN	172.1	89.9	3945	3793			
1967 0545	ADURA 1	2876	US	29 JUN	172.1	89.9	3945	3794			
1967 0546		2877	US	29 JUN	172.1	89.9	3942	3796			
1967 0604	TILLAM 3 C-14	2802	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1967 0605		2803	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1967 0606		2804	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1967 0607		2805	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1967 0608		2806	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1967 0609		2807	US	1 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1967 0610		2808	US	1 JUL	1319.1	0.8	33658	33270			
1967 0611		2809	US	14 JUL	BARYCENTRIC ORBIT						
1967 0704	EXPLORER 35	2834	US	19 JUL	SELENOCENTRIC ORBIT						
1967 0705		2908	US	1 AUG	BARYCENTRIC ORBIT						
1967 0804		2920	US	23 AUG	101.9	99.0	871	821			
1967 0805		2946	US	23 AUG	101.9	99.0	877	819			
1967 0840		2933	US	8 SEP	BARYCENTRIC ORBIT						
1967 0824	INSS 30146	2965	US	25 SEP	106.6	89.3	1104	1031			
1967 0825		2907	US	25 SEP	106.6	89.3	1104	1033			
1967 0826		2974	US	25 SEP	104.0	89.5	1019	873			
1967 0827		3122	US	25 SEP	108.9	89.1	1321	1033			
1967 0828		12554	US	25 SEP	104.0	89.5	1096	893			

OBJECTS IN ORBIT

INFORM NATIONAL	DESIGNATION	NAME	NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN VATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
	1967 LAUNCHES (CONT.)										
	1967 0921		12500	US	25 SEP	104.1	89.5	974	925		
	1967 0922	INTEGRAL-1A	2971	US	28 SEP		CURRENT ELEMENTS NOT MAINTAINED				
	1967 0924		2971	US	28 SEP		CURRENT ELEMENTS NOT MAINTAINED				
	1967 0924		2971	US	11 OCT	99.5	99.3	823	649		
	1967 0925		2935	US	11 OCT	99.4	99.2	815	645		
	1967 1024	COSMOS 104	3010	USSR	24 OCT	93.7	81.2	463	447		
	1967 1025		3011	USSR	24 OCT	95.4	81.2	502	468		
	1967 1026		3015	USSR	27 OCT	97.1	84.1	742	492		
	1967 1114	RTS 3	3029	US	5 NOV	1436.2	11.3	35834	35743		
	1967 1120		3034	US	7 NOV		BI-CENTRIC ORBIT				
	1967 1124	USSA 2	3035	US	10 NOV	114.3	102.0	1493	1407		
	1967 1125		3036	US	10 NOV	114.8	102.0	1433	1406		
	1967 1126		3051	US	10 NOV	114.1	101.2	1482	1344		
	1967 1127		3129	US	10 NOV	115.4	102.8	1494	1449		
	1967 1128		3443	US	10 NOV	114.5	101.3	1484	1386		
	1967 1129	COSMOS 106	3047	USSR	23 NOV	99.4	74.0	735	727		
	1967 1129		3048	USSR	23 NOV	99.4	74.0	734	724		
	1967 1224	PILOTAGE 3	3066	US	13 DEC		HELIOCENTRIC ORBIT				
	1967 1274	COSMOS 190	3081	USSR	27 DEC	103.4	55.1	934	902		
	1968 LAUNCHES										
	1968 0010		3092	US	7 JAN		BI-CENTRIC ORBIT				
	1968 0024	EARLEHART 33	3093	US	11 JAN	112.2	105.8	1571	1081		
	1968 0025		3094	US	11 JAN	112.1	105.3	1562	1081		
	1968 0026		3120	US	11 JAN	112.3	106.1	1581	1083		
	1968 0028		3127	US	11 JAN	112.1	105.3	1570	1075		
	1968 0114	COSMOS 203	3129	USSR	20 FEB	109.2	74.0	1199	1181		
	1968 0115		3131	USSR	20 FEB	109.2	74.0	1202	1181		
	1968 0124	RTS 36124	3133	US	2 MAR	106.7	90.0	1132	1019		
	1968 0125		3137	US	2 MAR	105.3	90.0	1135	1020		
	1968 0126		3213	US	2 MAR	104.8	87.9	1090	881		
	1968 0128		3214	US	2 MAR	108.7	90.1	1309	1021		
	1968 0134	COSMOS 204	3134	USSR	2 MAR		HELIOCENTRIC ORBIT				
	1968 0144	USS 3	3135	US	4 MAR		CURRENT ELEMENTS NOT MAINTAINED				
	1968 0145		3140	US	4 MAR		CURRENT ELEMENTS NOT MAINTAINED				
	1968 0174	EXPLORER 37	3141	US	5 MAR	95.5	59.4	649	438		
	1968 0175		3220	US	5 MAR	98.0	87.0	749	675		
	1968 0176	COSMOS 205	3150	USSR	14 MAR	93.5	81.2	494	440		
	1968 0177		3191	USSR	14 MAR	95.9	81.2	595	489		
	1968 0204	COSMOS 207	3155	USSR	22 MAR	103.1	65.3	921	835		
	1968 0204	SVI-13	3173	US	6 APR	100.0	100.0	9230	587		
	1968 0208	SVI-14	3174	US	6 APR	107.3	100.0	9685	566		
	1968 0209		3177	US	6 APR	207.3	100.0	9884	569		
	1968 0220		3212	US	5 APR	108.0	100.0	9221	576		
	1968 0274	COSMOS 210	3178	USSR	7 APR		SELENUCENTRIC ORBIT				
	1968 0404	COSMOS 220	3229	USSR	7 MAY	93.0	74.0	724	653		
	1968 0405		3230	USSR	7 MAY	98.4	74.0	715	646		
	1968 0406		3231	USSR	7 MAY	95.5	74.1	616	569		
	1968 0424		3260	US	23 MAY	101.9	93.0	680	609		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION NAME CATALOG NUMBER SOURCE LAUNCH PERIOD MINUTES INCLIN. NATION APOGEE KM. PERIGEE KM. TRANSMITTING FREQ. (MHZ) NOTES

1968 LAUNCHES (CONT.)

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN. NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1968 042U		3271	US	23 MAY	101.9	99.0	887	808		
1968 049B		3284	USSR	12 JUN	94.8	81.2	867	461		
1968 050A		3284	US	13 JUN						CURRENT ELEMENTS NOT MAINTAINED
1968 050B		3285	US	13 JUN						CURRENT ELEMENTS NOT MAINTAINED
1968 050C		3286	US	13 JUN						CURRENT ELEMENTS NOT MAINTAINED
1968 050D		3287	US	13 JUN						CURRENT ELEMENTS NOT MAINTAINED
1968 050E		3288	US	13 JUN						CURRENT ELEMENTS NOT MAINTAINED
1968 050F		3289	US	13 JUN						CURRENT ELEMENTS NOT MAINTAINED
1968 050G		3290	US	13 JUN						CURRENT ELEMENTS NOT MAINTAINED
1968 050H		3291	US	13 JUN						CURRENT ELEMENTS NOT MAINTAINED
1968 050J		3292	US	13 JUN	1303.7	11.3	35061	33653		
1968 050A	EXPLORER 34	3307	US	4 JUL	224.2	120.9	5864	5828		
1968 050B		3315	US	4 JUL	155.9	120.6	5738	643		
1968 050C		3344	US	4 JUL	224.1	120.9	5862	5828		
1968 050D		4841	US	4 JUL	155.5	120.7	5822	582		
1968 063A		3334	US	6 AUG						CURRENT ELEMENTS NOT MAINTAINED
1968 066B	EXPLORER 40	3338	US	6 AUG	118.0	80.7	2506	678		
1968 066C		3341	US	6 AUG	118.0	80.7	2497	680		
1968 066D		3342	US	8 AUG	112.5	80.6	2020	658		
1968 066E		3343	US	8 AUG	110.8	80.8	1913	617		
1968 066F		3350	US	8 AUG	112.3	80.6	2050	663		
1968 066G		3341	US	8 AUG	112.3	80.7	2026	640		
1968 066H		3392	US	8 AUG	114.3	80.7	2163	679		
1968 066J		3393	US	8 AUG	113.2	80.6	2695	651		
1968 069A	ESSA 7	3345	US	10 AUG	114.9	101.5	1471	1429		
1968 069B		3346	US	16 AUG	114.9	101.8	1464	1429		
1968 069C		3410	US	16 AUG	113.0	101.6	1486	1300		
1968 069D		3417	US	16 AUG	116.1	102.5	1558	1454		
1968 069E		3474	US	16 AUG	114.9	101.8	1477	1422		
1968 069F		3475	US	16 AUG	114.9	101.8	1483	1414		
1968 069G		4499	US	16 AUG	115.1	101.6	1481	1435		
1968 070A	COSMOS 249	3347	USSR	27 AUG	94.8	66.1	503	482		
1968 081A	OV2-5	3423	US	26 SEP						CURRENT ELEMENTS NOT MAINTAINED
1968 081C	ERS-21	3430	US	26 SEP						CURRENT ELEMENTS NOT MAINTAINED
1968 081D	LES 6	3431	US	26 SEP	1460.3	9.6	36328	36188		
1968 081E		3432	US	26 SEP	1417.4	9.1	36753	36085		
1968 091A	COSMOS 249	3504	USSR	20 OCT	111.7	62.4	2084	525		
1968 091B	091B		USSR	20 OCT	SEE NOTE	7.7				
1968 092A		3510	US	23 OCT	101.2	98.3	836	790		
1968 092B		3522	US	23 OCT	101.1	98.4	834	787		
1968 097A	COSMOS 252	3530	USSR	1 NOV	112.2	62.3	2092	561		
1968 097B	097B		USSR	1 NOV	SEE NOTE	6.7				
1968 100A	PIIONEER 9	3533	US	8 NOV						HELIOCENTRIC ORBIT
1968 100A	COSMOS 250	3576	USSR	30 NOV	109.9	74.1	1221	1170		
1968 100B		3577	USSR	30 NOV	109.2	74.0	1215	1163		
1968 110A	097A	3547	US	7 DEC	100.1	35.0	788	759		
1968 110B		3548	US	7 DEC	99.9	35.0	796	709		
1968 112A		3605	US	12 DEC	114.3	60.4	1469	1379		
1968 112C		3617	US	12 DEC	114.0	50.2	1446	1373		
1968 112D		3618	US	12 DEC	114.7	56.6	1697	1376		

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OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1968 LAUNCHES (CONT.)											
1968 112E		3540	US	12 DEC	114.4	80.6		1455	1403		
1968 114A	ESSA 8	3615	US	15 DEC	114.6	101.4		1461	1411		
1968 114B		3616	US	15 DEC	115.0	101.5		1468			
1968 114C		3611	US	15 DEC	112.8	101.9		1463	1248		
1968 114D		3612	US	15 DEC	116.3	102.3		1571	1458		
1968 115A	INTELSAT 3 F-2	3623	ITSU	19 DEC							CURRENT ELEMENTS NOT MAINTAINED
1968 118B		3627	US	21 DEC							HELIOCENTRIC ORBIT
1969 LAUNCHES											
1969 009A	ISIS 1	3609	CANADA	30 JAN	127.9	88.4		3489	574		
1969 009B		3670	US	30 JAN	127.3	88.4		3432	573		
1969 010B		3673	US	3 FEB	114.0	80.4		1432	1391		
1969 010C		3641	US	5 FEB	113.7	80.2		1420	1371		
1969 011A	INTELSAT 3 F-3	3674	ITSU	6 FEB							CURRENT ELEMENTS NOT MAINTAINED
1969 011B		3677	US	6 FEB							CURRENT ELEMENTS NOT MAINTAINED
1969 013A		3691	US	9 FEB							CURRENT ELEMENTS NOT MAINTAINED
1969 013B		3692	US	9 FEB							CURRENT ELEMENTS NOT MAINTAINED
1969 014A	MARINER C	3759	US	25 FEB							HELIOCENTRIC ORBIT
1969 014B		3760	US	25 FEB							HELIOCENTRIC ORBIT
1969 016A	ESSA 9	3764	US	26 FEB	115.2	101.7		1503	1423		
1969 016B		3767	US	26 FEB	115.1	101.7		1498	1416		
1969 018B		3770	US	3 MAR							HELIOCENTRIC ORBIT
1969 024A	COMMATS 272	3618	USSR	17 MAR	109.2	74.0		1206	1177		
1969 024B		3619	USSR	17 MAR	109.1	74.0		1134	1178		
1969 024C		6204	USSR	17 MAR	108.9	74.0		1166	1169		
1969 025C	UVI-19	3825	US	18 MAR	152.2	104.7		5653	474		
1969 025E		3827	US	18 MAR	151.3	104.7		5573	483		
1969 029A	METEOR	3635	JSSR	20 MAR	96.9	81.2		631	591		
1969 029B		3636	USSR	20 MAR	94.0	81.2		548	393		
1969 029E		3651	USSR	20 MAY	91.4	81.2		362	322		
1969 029Z		3674	USSR	20 MAR	92.0	81.3		467	348		
1969 030A	MARINER 7	3837	US	27 MAR							HELIOCENTRIC ORBIT
1969 030B		3845	US	27 MAR							HELIOCENTRIC ORBIT
1969 030A		3889	US	13 APR							CURRENT ELEMENTS NOT MAINTAINED
1969 037A	NIMBUS 3	3696	US	14 APR	107.3	99.8		1129	1070		
1969 037B	SECUR (EUMS) 13	3691	US	14 APR	107.2	99.8		1128	1067		
1969 037C		3692	US	14 APR	107.3	99.9		1134	1073		
1969 043B		3943	US	18 MAY							HELIOCENTRIC ORBIT
1969 043C	LYAPSECENT	3946	US	18 MAY							SELENOCENTRIC ORBIT
1969 043D	LYASCENT	3947	US	18 MAY							HELIOCENTRIC ORBIT
1969 045A	INTELSAT 3 F-4	3947	ITSU	22 MAY							CURRENT ELEMENTS NOT MAINTAINED
1969 046A	UVS-5/ERS-29	3950	US	23 MAY							CURRENT ELEMENTS NOT MAINTAINED
1969 046B	UVS-9	3951	US	23 MAY							CURRENT ELEMENTS NOT MAINTAINED
1969 046C	UVS-9	3952	US	23 MAY							CURRENT ELEMENTS NOT MAINTAINED
1969 046D		3954	US	23 MAY							CURRENT ELEMENTS NOT MAINTAINED
1969 046E		3955	US	23 MAY							CURRENT ELEMENTS NOT MAINTAINED
1969 046F		3956	US	23 MAY							CURRENT ELEMENTS NOT MAINTAINED
1969 053B		3993	US	21 JUN							CURRENT ELEMENTS NOT MAINTAINED
1969 069B		4046	US	10 JUL							HELIOCENTRIC ORBIT

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1969 LAUNCHES (CONT.)										
1969 059C	LUNAR MODULE	4041	US	16 JUL	SELENCENTRIC ORBIT					9*
1969 062A		4047	US	23 JUL	101.0	98.8	842	773		
1969 062B		4048	US	23 JUL	101.0	98.8	638	772		
1969 064A	INTELSAT 3 F-6	4051	IFSU	26 JUL	101.6	30.2	1405	259		
1969 064C		4053	US	26 JUL	131.4	30.3	4097	268		
1969 067A	AFS 3	4060	US	12 AUG	146.6	9.6	3829	34383		
1969 069F		4065	US	12 AUG	703.3	18.0	37319	2319		
1969 069G		4091	US	12 AUG	882.2	17.2	36477	2088		
1969 070A	COSMOS 292	4070	USSR	13 AUG	99.6	74.1	747	729		
1969 070B		4071	USSR	13 AUG	99.3	74.0	734	714		
1969 070C		4084	USSR	13 AUG	99.3	74.1	767	732		
1969 082A		4206	US	30 SEP	103.2	70.0	925	898		
1969 082C		4237	US	30 SEP	103.3	70.0	929	901		
1969 082D		4239	US	30 SEP	103.3	70.0	930	902		
1969 082E		4237	US	30 SEP	103.3	70.0	929	901		
1969 082F		4247	US	30 SEP	103.3	70.0	929	901		
1969 082G		4295	US	30 SEP	103.3	70.0	929	902		
1969 082H		4168	US	30 SEP	103.3	70.0	929	902		
1969 082J		4168	US	30 SEP	102.2	70.0	872	854		
1969 082K		4192	US	30 SEP	102.7	70.0	900	873		
1969 082L	- 052KL		US	30 SEP	SEE NOTE	10*				10*
1969 084A	METEOR	4119	USSR	6 OCT	96.6	81.2	613	673		
1969 084B		4120	USSR	6 OCT	96.4	81.2	658	508		
1969 091A	COSMOS 304	4138	USSR	21 OCT	99.7	74.0	753	733		
1969 091B		4139	USSR	21 OCT	99.3	74.0	726	713		
1969 097A	GRS-AZELON	4221	FRG	8 NOV	115.3	102.8	2595	379		
1969 097B		4222	US	8 NOV	110.3	102.9	2109	372		
1969 099B		4220	US	14 NOV	CURRENT ELEMENTS NOT MAINTAINED					
1969 101A	SKYNET A	4250	UK	22 NOV	ELEMENTS NOT AVAILABLE					
1969 101B		4251	US	22 NOV	CURRENT ELEMENTS NOT MAINTAINED					
1969 103A	COSMOS 312	4254	USSR	24 NOV	108.5	74.0	1173	1140		
1969 103B		4256	USSR	24 NOV	108.3	74.0	1167	1140		
1970 LAUNCHES										
1970 003A	INTELSAT 3 F-6	4297	IFSU	19 JAN	CURRENT ELEMENTS NOT MAINTAINED					
1970 003B		4299	US	15 JAN	557.5	27.8	31748	376		
1970 008A	IFOS 1	4320	US	23 JAN	115.0	101.6	1477	1431		
1970 008B	USCAR 5	4321	AUSTRL	23 JAN	115.0	101.6	1475	1432		
1970 008C		4322	US	23 JAN	115.0	101.6	1477	1432		
1970 009A	SERT 2	4327	US	4 FEB	106.0	99.3	1045	1039		
1970 011A	OHSUMI	4330	JAPAN	11 FEB	126.6	31.1	3608	334		
1970 012A		4331	US	11 FEB	101.0	98.9	851	757		
1970 012B		4332	US	11 FEB	101.0	98.9	866	759		
1970 021A	NATO 1	4353	NATO	20 MAR	1437.2	6.7	35950	35665		
1970 021B		4364	US	20 MAR	576.1	26.1	32631	483		
1970 021C		5975	US	20 MAR	531.3	25.8	33070	315		
1970 026A	NIMBUS 4	4362	US	8 APR	107.1	99.7	1097	1087		
1970 026B	TOPO 1	4363	US	8 APR	106.9	99.5	1085	1082		
1970 026C	026PA		US	8 APR	SEE NOTE	11*				11*

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL. NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1970 LAUNCHES (CONT.)										
1970 027A		4365	US	8 APR						
1970 027B		4364	US	8 APR						
1970 028A	COSMOS 332	4369	USSR	11 APR	99.7	74.0	745	737		
1970 028B		4370	USSR	11 APR	99.4	74.0	746	717		
1970 028C		14314	USSR	11 APR	99.7	74.0	755	736		
1970 032A	INTELSAT 3 F-1	4376	ITSU	23 APR						
1970 032B		4377	US	23 APR						
1970 034A	MAJ 1	4382	PRC	24 APR	112.6	68.4	2262	431		
1970 034B		4392	PRC	24 APR	106.9	68.4	1743	422		
1970 036A	COSMOS 336	4383	USSR	25 APR	115.4	74.0	1434	1461		
1970 036B	COSMOS 337	4384	USSR	25 APR	116.2	74.0	1551	1466		
1970 036C	COSMOS 338	4385	USSR	25 APR	115.8	74.0	1516	1465		
1970 036D	COSMOS 339	4386	JSSR	25 APR	115.0	74.0	1467	1443		
1970 036E	COSMOS 340	4387	USSR	25 APR	114.6	74.0	1468	1405		
1970 036F	COSMOS 341	4388	USSR	25 APR	113.9	74.0	1467	1341		
1970 036G	COSMOS 342	4389	USSR	25 APR	113.0	74.0	1466	1309		
1970 036H	COSMOS 343	4390	USSR	25 APR	114.2	74.0	1466	1373		
1970 036J		4391	USSR	25 APR	116.6	74.0	1688	1463		
1970 037A	METEOR	4393	JSSR	28 APR	97.0	81.2	648	586		
1970 037B		4394	USSR	28 APR	97.4	81.2	720	648		
1970 040A		4418	US	19 JUN						
1970 040B		4411	US	19 JUN						
1970 047A	METEOR	4419	USSR	23 JUN	101.9	81.2	877	819		
1970 047B		4426	USSR	23 JUN	102.1	81.2	922	795		
1970 055A	INTELSAT 3 F-3	4478	ITSU	23 JUL	1404.8	10.1	37728	32615		
1970 055B		4488	US	23 JUL						
1970 062A	SKYNET B	4493	UK	19 AUG						
1970 064A	COSMOS 368	4497	USSR	20 AUG	93.2	74.0	434	426		
1970 067A		4507	US	27 AUG	106.8	90.1	1208	947		
1970 067B		4513	US	27 AUG	106.8	90.1	1210	948		
1970 067C		5036	US	27 AUG	103.5	90.2	945	901		
1970 067D		5447	US	27 AUG	109.3	90.1	1447	945		
1970 069A		4510	US	1 SEP						
1970 070A		4512	US	3 SEP	100.9	98.9	852	747		
1970 070B		4513	US	3 SEP	100.9	98.8	857	748		
1970 070A	COSMOS 367	4564	USSR	3 OCT	104.6	65.3	1025	914		
1970 083A	COSMOS 371	4578	USSR	12 OCT	99.5	74.0	739	734		
1970 083B		4479	USSR	12 OCT	99.4	74.0	737	712		
1970 085A	METEOR	4583	USSR	15 OCT	96.1	81.2	574	566		
1970 085B		4604	USSR	16 OCT	96.3	81.2	651	514		
1970 093C		6330	USSR	15 OCT	95.1	81.2	572	470		
1970 085A	COSMOS 372	4688	USSR	16 OCT	100.8	74.1	794	773		
1970 086B		4589	USSR	16 OCT	100.4	74.1	791	759		
1970 086C		6367	USSR	16 OCT	99.6	74.0	748	736		
1970 086D		5356	USSR	16 OCT	100.1	74.1	768	760		
1970 089A	COSMOS 374	4694	USSR	23 OCT	108.8	63.0	1801	841		
1970 089B - 089DA			USSR	23 OCT						
1970 091A	COSMOS 376	4696	USSR	30 OCT	111.5	62.8	2029	663		
1970 091B - 091AT			USSR	30 OCT						
1970 093A		4630	US	6 NOV	1198.1	14.0	36040	46936		

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OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL. NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1970 LAUNCHES (CONT.)										
1970 093B		4632	US	6 NOV	1197.7	13.8	36029	25932		
1970 102A	COSMOS 361	4783	USSR	2 DEC	104.0	74.0	1007	962		
1970 102B		4784	USSR	2 DEC	104.7	74.0	999	958		
1970 102C		4840	USSR	2 DEC	102.4	74.0	892	863		
1970 102D		5225	USSR	2 DEC	104.3	74.0	973	946		
1970 102E		3764	USSR	2 DEC	104.3	74.0	980	947		
1970 102F		9794	USSR	2 DEC	102.9	74.0	903	883		
1970 103A	COSMOS 362	4786	USSR	2 DEC	171.0	55.9	5215	2438		
1970 103B		4789	USSR	2 DEC	158.8	51.6	5087	1585		
1970 103C		4790	USSR	2 DEC	159.1	51.6	5089	1608		
1970 103D		5316	USSR	2 DEC	151.5	55.8	4737	1336		
1970 103E		12854	USSR	2 DEC	149.7	50.5	5008	912		
1970 106A	NOAA 1	4793	US	11 DEC	114.8	101.6	1471	1421		
1970 106B		4794	US	11 DEC	114.9	101.6	1473	1419		
1970 106C		8828	US	11 DEC	116.4	102.1	1543	1498		
1970 108A	COSMOS 369	4799	USSR	12 DEC	104.6	74.0	979	973		
1970 108B		4800	USSR	12 DEC	104.5	74.0	978	964		
1970 109B		4802	FRANCE	12 DEC	97.8	15.0	694	608		
1970 113A	CUSMOS 389	4813	USSR	18 DEC	97.0	81.2	633	598		
1970 113B		4814	USSR	18 DEC	97.3	81.2	679	574		
1971 LAUNCHES										
1971 000A		4924	US	UNKN	95.6	18.0	906	192		
1971 003A	METEOR	4849	USSR	20 JAN	96.0	81.2	503	587		
1971 003B		4850	USSR	20 JAN	96.7	81.2	665	531		
1971 006A	INTELSAT 4 F-2	4881	ITSU	26 JAN						ELEMENTS NOT AVAILABLE
1971 006B		4882	US	26 JAN	653.0	28.0	36474	675		
1971 009A	NATO 2	4902	NATO	3 FEB						ELEMENTS NOT AVAILABLE
1971 009B		4903	US	3 FEB						CURRENT ELEMENTS NOT MAINTAINED
1971 009D		5986	US	3 FEB						CURRENT ELEMENTS NOT MAINTAINED
1971 010A	COSMOS 394	4922	USSR	9 FEB	96.0	65.8	509	539		
1971 011A	TANSEI 1	4952	JAPAN	16 FEB	106.1	29.7	1107	987		
1971 011B		5126	JAPAN	16 FEB	104.8	29.7	995	977		
1971 012A		4953	US	17 FEB	100.5	98.4	814	752		
1971 012B		4954	US	17 FEB	100.6	98.5	816	756		
1971 012C		4957	US	17 FEB	97.8	98.4	668	635		
1971 012D		4958	US	17 FEB	97.5	98.4	656	623		
1971 012E		4963	US	17 FEB	98.3	98.2	690	659		
1971 015A	COSMOS 397	4964	USSR	25 FEB	113.3	65.7	2109	565		
1971 015B - 015C			USSR	25 FEB						SEE NOTE 15*
1971 016A	COSMOS 398	4966	USSR	26 FEB	149.7	51.6	5723	200		
1971 020A	COSMOS 400	5050	USSR	18 MAR	104.9	65.8	994	988		
1971 020B		5051	USSR	18 MAR	104.8	65.8	1014	952		
1971 020C		5052	USSR	18 MAR	104.9	65.8	994	987		
1971 021A		5053	US	21 MAR						CURRENT ELEMENTS NOT MAINTAINED
1971 021B		5054	US	21 MAR						CURRENT ELEMENTS NOT MAINTAINED
1971 024A	ISIS 2	5104	CANADA	1 APR	113.5	88.2	1424	1353		
1971 024B		5106	US	1 APR	113.5	89.2	1421	1350		
1971 024C		5360	US	1 APR	113.5	88.3	1423	1355		

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OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	CATALOG NAME	NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL. NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1971 LAUNCHES (CONT.)										
1971 025A	COSMOS 402	5105	USSR	1 APR	104.9	65.0	1032	945		
1971 028A	COSMOS 406	5117	USSR	7 APR	97.6	81.2	841	637		
1971 028B		5118	USSR	7 APR	97.6	81.2	703	588		
1971 028D		5124	USSR	7 APR	97.3	81.2	630	627		
1971 031A	METEOR	5142	USSR	17 APR	95.2	81.3	541	512		
1971 031B		5143	USSR	17 APR	96.2	81.3	633	616		
1971 035A	COSMOS 407	5174	USSR	23 APR	100.7	74.0	807	778		
1971 035B		5176	USSR	23 APR	100.6	74.0	810	761		
1971 035C		5300	USSR	23 APR	100.4	74.0	788	767		
1971 036D		5301	USSR	23 APR	100.6	74.0	801	773		
1971 038A	COSMOS 409	5180	USSR	28 APR	109.3	74.0	1210	1174		
1971 038B		5181	USSR	28 APR	109.0	74.0	1229	1138		
1971 039A		5204	US	5 MAY	ELEMENTS NOT AVAILABLE					
1971 039B		5206	US	5 MAY	ELEMENTS NOT AVAILABLE					
1971 041A	COSMOS 411	5210	USSR	7 MAY	113.8	74.0	1489	1313		
1971 041B	COSMOS 412	5211	USSR	7 MAY	116.1	74.0	1633	1478		
1971 041C	COSMOS 413	5212	USSR	7 MAY	115.7	74.0	1505	1472		
1971 041D	COSMOS 414	5213	USSR	7 MAY	115.1	74.0	1492	1424		
1971 041E	COSMOS 415	5214	USSR	7 MAY	115.4	74.0	1499	1448		
1971 041F	COSMOS 416	5216	USSR	7 MAY	114.4	74.0	1490	1369		
1971 041G	COSMOS 417	5216	USSR	7 MAY	114.1	74.0	1490	1341		
1971 041H	COSMOS 418	5217	USSR	7 MAY	114.8	74.0	1491	1396		
1971 041J		5218	USSR	7 MAY	116.8	74.0	1590	1485		
1971 045A	MARS 2	5234	USSR	19 MAY	AREOCENTRIC ORBIT					
1971 046A	COSMOS 422	5238	USSR	22 MAY	105.0	74.0	1004	982		
1971 046B		5239	USSR	22 MAY	104.7	74.0	998	980		
1971 049A	MARS 3	5252	USSR	28 MAY	AREOCENTRIC ORBIT					
1971 051A	MARINER 9	5261	US	30 MAY	AREOCENTRIC ORBIT					
1971 051B		5267	US	30 MAY	HELIOCENTRIC ORBIT					
1971 052A	COSMOS 426	5281	USSR	4 JUN	104.3	74.0	1551	370		
1971 052B		5282	USSR	4 JUN	104.8	74.0	1594	372		
1971 059A	METEOR	5327	USSR	16 JUL	96.6	81.2	664	639		
1971 059B		5328	USSR	16 JUL	96.3	81.2	645	522		
1971 063B	APOLLO 16	5377	US	26 JUL	SELENOCENTRIC ORBIT					
SUBSATELLITE										
1971 067B	OV1-21	5397	US	7 AUG	101.8	87.6	503	781		
1971 067E		5398	US	7 AUG	101.4	87.6	882	771		
1971 067J		5406	US	7 AUG	100.1	87.6	810	711		
1971 067K		5395	US	7 AUG	101.4	87.6	878	771		
1971 067L		5399	US	7 AUG	100.2	87.6	814	722		
1971 067M		5400	US	7 AUG	100.2	87.6	811	720		
1971 067N		5364	US	7 AUG	101.6	87.6	895	767		
1971 069C		5426	USSR	12 AUG	100.4	49.6	872	678		
1971 071A	EULE 1	5435	FRANCE	18 AUG	100.2	50.2	870	664		
1971 071B		5438	US	18 AUG	100.1	50.2	867	661		
1971 071C		5440	US	18 AUG	98.8	50.7	787	616		
1971 073B		5449	USSR	2 SEP	SELENOCENTRIC ORBIT					
1971 080A	SHINSEI	5485	JAPAN	28 SEP	113.1	32.0	1868	873		
1971 080B		5498	JAPAN	28 SEP	111.9	32.0	1759	870		
1971 082A	LUNA 19	5488	USSR	28 SEP	SELENOCENTRIC ORBIT					

SUBJECTS IN ORBIT

INTER-
NATIONAL

CATALOG

DESIGNATION NAME NUMBER SOURCE LAUNCH PERIOD INCLIN ALTITUDE PERIGEE TRANSMITTING
 KM. KM. FREQ. (MHZ)

NOTES

1971 LAUNCHES (CONT.)

DESIGNATION	NAME	NUMBER	SOURCE	LAUNCH	PERIOD	INCLIN	ALTITUDE	PERIGEE	TRANSMITTING
					MINUTES	NATION	KM.	KM.	FREQ. (MHZ)
1971 082C		5490	USSR	28 SEP	SELENUCENTRIC ORBIT				
1971 082A	COSMOS 444	5447	USSR	13 OCT	114.1	74.0	1600	1319	
1971 080B	COSMOS 445	5445	USSR	13 OCT	114.4	74.0	1510	1348	
1971 086C	COSMOS 446	5444	USSR	13 OCT	114.3	74.0	1509	1374	
1971 080D	COSMOS 447	5350	USSR	13 OCT	115.1	74.0	1512	1409	
1971 086E	COSMOS 448	5551	USSR	13 OCT	115.5	74.0	1515	1438	
1971 086F	COSMOS 449	5552	USSR	13 OCT	116.2	74.0	1540	1480	
1971 086G	COSMOS 450	5553	USSR	13 OCT	116.9	74.0	1528	1454	
1971 080H	COSMOS 451	5554	USSR	13 OCT	116.9	74.0	1571	1487	
1971 085J		5555	USSR	13 OCT	117.3	74.0	1622	1501	
1971 087A		5557	US	14 OCT	161.3	99.0	802	781	
1971 087B		5559	US	14 OCT	101.5	99.0	875	781	
1971 083A		5560	US	17 OCT	100.1	92.7	777	752	
1971 093A	PHOENIX	5561	UK	28 OCT	100.3	82.1	1484	835	
1971 093E		5561	UK	28 OCT	105.4	82.1	1494	535	
1971 093A		5567	US	3 NOV	1436.3	8.5	35816	35763	
1971 095B		5558	US	3 NOV	1436.9	8.3	35817	35787	
1971 095C		5559	US	3 NOV	1481.7	8.9	37328	36019	
1971 095A	EXPLORER 45	5555	US	15 NOV	322.8	3.2	18149	272	
1971 096A		5573	US	19 NOV	CURRENT ELEMENTS NOT MAINTAINED				
1971 099A	COSMOS 457	5614	USSR	20 NOV	109.4	74.0	1216	1180	
1971 099B		5615	USSR	20 NOV	109.3	74.0	1209	1175	
1971 110A		5673	US	14 DEC	ELEMENTS NOT AVAILABLE				
1971 110B		5675	US	14 DEC	ELEMENTS NOT AVAILABLE				
1971 110C		5680	US	14 DEC	ELEMENTS NOT AVAILABLE				
1971 110D		5681	US	14 DEC	ELEMENTS NOT AVAILABLE				
1971 110E		5682	US	14 DEC	ELEMENTS NOT AVAILABLE				
1971 111A	COSMOS 455	5683	USSR	19 DEC	104.8	74.0	1006	904	
1971 111B		5685	USSR	19 DEC	104.7	74.0	995	962	
1971 114A	COSMOS 458	5745	USSR	17 DEC	100.0	74.0	747	774	
1971 114B		5747	USSR	17 DEC	100.5	74.0	900	762	
1971 114C		5748	USSR	17 DEC	100.5	74.0	794	778	
1971 114D		5858	USSR	17 DEC	100.4	74.0	788	768	
1971 115A	INTEGRAL 4-F-3	5749	USSR	20 DEC	1454.5	3.9	36645	35649	
1971 117A	COSMOS 469	5721	USSR	25 DEC	104.7	94.5	1027	930	
1971 117B	ORACLE 1	5729	USSR	27 DEC	111.4	74.0	2186	391	
1971 119E		5730	USSR	27 DEC	111.0	74.0	2151	392	
1971 120A	MALENA	5731	USSR	29 DEC	102.8	81.2	919	837	
1971 120B		5732	USSR	29 DEC	102.1	81.3	875	841	
1971 120C		5826	USSR	29 DEC	101.7	81.2	855	823	
1971 120D		5827	USSR	29 DEC	102.1	81.3	850	847	
1971 120F		19344	USSR	29 DEC	101.5	81.3	853	815	

1972 LAUNCHES

1972 003A	INTEGRAL 4-F-4	5775	USSR	23 JAN	1442.0	3.8	35933	35895	
1972 003B		5810	US	23 JAN	653.3	28.0	36520	619	
1972 007B		5836	USSR	14 FEB	SELENUCENTRIC ORBIT				
1972 009A	COSMOS 475	5846	USSR	25 FEB	104.7	74.0	996	962	
1972 009B		5847	USSR	25 FEB	104.8	74.1	932	945	

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	CATALOG NAME	NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL- NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1972 LAUNCHES (CONT.)										
1972 010A		5851	US	1 MAR	ELEMENTS NOT AVAILABLE					
1972 010B		5854	US	1 MAR	ELEMENTS NOT AVAILABLE					
1972 011A	COSMOS 476	5852	USSR	1 MAR	95.0	81.2	550	539		
1972 011B		5853	USSR	1 MAR	96.0	81.2	610	519		
1972 012A	PIIONEER 10	5860	US	3 MAR	SOLAR SYSTEM ESCAPE TRAJECTORY					
1972 012B		5861	US	3 MAR	HELIOCENTRIC ORBIT					
1972 010A		5903	US	24 MAR	101.0	99.1	807	788		
1972 010B		5904	US	24 MAR	101.4	99.1	860	789		
1972 019A	COSMOS 420	5905	USSR	25 MAR	109.1	83.0	1198	1169		
1972 019B		5907	USSR	25 MAR	108.9	83.0	1194	1168		
1972 022A	METEOR	5917	USSR	30 MAR	102.4	81.2	853	857		
1972 022B		5918	USSR	30 MAR	102.5	81.2	922	833		
1972 023E		6073	USSR	31 MAR	172.6	82.2	7562	218		
1972 027A	PROTON-2	5941	USSR	14 APR	CURRENT ELEMENTS NOT MAINTAINED					
1972 031C	LUNAR MODULE	6000	US	16 APR	SELENUCENTRIC ORBIT					
1972 035A	COSMOS 439	6019	USSR	6 MAY	104.7	74.0	997	962		
1972 035B		6020	USSR	6 MAY	104.3	74.0	986	956		
1972 041A	INTELSAT 4 F-3	6052	USSR	13 JUN	143.2	4.9	35925	35728		
1972 041B		6058	US	13 JUN	651.3	26.3	36500	498		
1972 043A	COSMOS 477	6039	USSR	23 JUN	100.6	74.1	793	778		
1972 043B		6061	USSR	23 JUN	100.4	74.1	794	759		
1972 043C		6063	USSR	23 JUN	100.3	74.1	788	763		
1972 043L		6065	USSR	23 JUN	100.3	74.1	798	765		
1972 047A	METEOR	6079	USSR	30 JUN	102.7	81.2	895	881		
1972 049B		6080	USSR	30 JUN	102.9	81.2	930	858		
1972 057A	COSMOS 504	6117	USSR	20 JUL	113.9	74.0	1494	1319		
1972 057B	COSMOS 505	6118	USSR	20 JUL	114.3	74.0	1494	1350		
1972 057C	COSMOS 506	6119	USSR	20 JUL	114.6	74.0	1494	1380		
1972 057D	COSMOS 507	6120	USSR	20 JUL	114.9	74.0	1494	1410		
1972 057E	COSMOS 508	6121	USSR	20 JUL	115.3	74.0	1494	1441		
1972 057F	COSMOS 509	6122	USSR	20 JUL	115.6	74.0	1497	1471		
1972 057G	COSMOS 510	6123	USSR	20 JUL	116.0	74.0	1507	1494		
1972 057H	COSMOS 511	6124	USSR	20 JUL	116.4	74.0	1543	1493		
1972 057I		6125	USSR	20 JUL	117.0	74.0	1599	1491		
1972 058A	LANUSAT 1	6126	US	23 JUL	103.1	99.0	911	897		
1972 058B	058B		US	23 JUL	SEE NOTE 10*					
1972 062A	COSMOS 514	6146	USSR	16 AUG	104.3	83.0	987	951		
1972 062B		6149	USSR	16 AUG	104.2	83.0	982	949		
1972 062C		6277	USSR	16 AUG	104.1	82.9	957	946		
1972 062D		7566	USSR	16 AUG	102.9	83.0	952	844		
1972 065A	CUPERNICUS	6153	US	21 AUG	99.4	35.0	736	725		
1972 065B		6155	US	21 AUG	99.2	35.0	758	682		
1972 066A	COSMOS 515	6154	USSR	21 AUG	104.5	64.8	1027	918		
1972 067A	FRITH-01-1A	6173	US	2 SEP	100.2	90.0	615	723		
1972 069B		6180	US	2 SEP	100.0	90.0	799	716		
1972 069C		6250	US	2 SEP	99.1	89.8	768	665		
1972 072A	COSMOS 520	6192	USSR	19 SEP	715.3	67.5	34089	5540		
1972 072B		6302	USSR	19 SEP	706.7	67.5	34244	5560		
1972 073A	EXPLORER 47	6197	US	23 SEP	CURRENT ELEMENTS NOT MAINTAINED					
1972 074A	COSMOS 521	6200	USSR	23 SEP	104.9	85.0	999	981		

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OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1972 LAUNCHES (CONT.)											
1972 074B		6207	USSR	29 SEP	104.8	65.8	1005	960			
1972 074C		6210	USSR	29 SEP	104.9	65.8	1001	977			
1972 076A		6212	US	2 OCT	98.0	98.6	699	685			
1972 076B		6217	US	2 OCT	99.1	98.6	726	707			
1972 076C		6218	US	2 OCT	99.3	98.7	735	714			
1972 076D		6221	US	2 OCT	99.5	98.6	694	677			
1972 079C		6222	US	10 OCT	114.7	95.6	1463	1418			
1972 079D		6223	US	10 OCT	114.9	95.8	1483	1404			
1972 079E		6224	US	10 OCT	114.6	95.5	1442	1432			
1972 082A	NGAA 2	6235	US	15 OCT	114.9	101.6	1453	1447			
1972 082B	AMSAT-OSCAR 6	6236	US	15 OCT	114.9	101.6	1452	1447			
1972 082C		6237	US	15 OCT	109.2	102.8	1466	914			
1972 085A	METEOR	6250	USSR	26 OCT	102.4	81.2	885	854			
1972 086B		6267	USSR	26 OCT	102.6	81.3	916	833			
1972 087A	COSMOS 528	6268	USSR	1 NOV	114.1	74.0	1465	1364			
1972 087B	COSMOS 529	6264	USSR	1 NOV	114.6	74.0	1466	1400			
1972 087C	COSMOS 530	6265	USSR	1 NOV	113.8	74.0	1466	1330			
1972 087D	COSMOS 531	6266	USSR	1 NOV	114.7	74.0	1468	1418			
1972 087E	COSMOS 532	6267	USSR	1 NOV	113.4	74.0	1466	1297			
1972 087F	COSMOS 533	6268	USSR	1 NOV	113.6	74.0	1466	1314			
1972 087G	COSMOS 534	6269	USSR	1 NOV	113.9	74.0	1466	1347			
1972 087H	COSMOS 535	6270	USSR	1 NOV	114.3	74.0	1467	1381			
1972 087J		6271	USSR	1 NOV	116.5	74.0	1592	1404			
1972 089A		6275	US	9 NOV	101.4	98.9	852	794			
1972 089B		6276	US	9 NOV	101.5	98.9	858	804			
1972 090A	ANIK 11	6279	CANADA	10 NOV	1457.5	4.6	36257	36150			
1972 097A	NIMBUS 5	6305	US	11 DEC	107.1	99.5	1100	1097			
1972 097B		6306	US	11 DEC	111.7	99.8	1514	1099			
1972 101A		6317	US	20 DEC	CURRENT ELEMENTS NOT MAINTAINED						
1972 101B		6318	US	20 DEC	CURRENT ELEMENTS NOT MAINTAINED						
1972 102A	COSMOS 539	6319	USSR	21 DEC	112.9	74.0	1377	1340			
1972 102B		6320	USSR	21 DEC	112.7	74.0	1371	1334			
1972 104A	COSMOS 540	6323	USSR	25 DEC	100.5	74.1	798	769			
1972 104B		6324	USSR	25 DEC	100.2	74.1	777	761			
1972 104C		6391	USSR	25 DEC	99.9	74.1	763	743			
1972 104D		6396	USSR	25 DEC	99.9	74.1	764	740			
1972 106B		6329	USSR	26 DEC	92.5	81.2	417	374			
1973 LAUNCHES											
1973 003A	COSMOS 540	6350	USSR	26 JAN	95.2	50.7	590	557			
1973 005B		6351	USSR	26 JAN	92.9	50.7	404	386			
1973 009A	PRUGN0Z 3	6364	USSR	15 FEB	CURRENT ELEMENTS NOT MAINTAINED						
1973 013A		6369	US	6 MAR	CURRENT ELEMENTS NOT MAINTAINED						
1973 015A	METEOR	6392	USSR	20 MAR	102.4	81.2	883	863			
1973 016B		6393	USSR	20 MAR	102.6	81.3	926	836			
1973 019A	PIONEER 11	6421	US	6 APR	SOLAR SYSTEM ESCAPE TRAJECTORY						
1973 019B		6425	US	6 APR	HELIOGEOCENTRIC ORBIT						
1973 023A	ANIK A2	6437	CANADA	20 APR	1442.9	3.6	35987	35850			
1973 034A	METEOR	6659	USSR	29 MAY	102.3	81.2	889	841			

1973 LAUNCHES IN ORBIT

INTER-NATIONAL DESIGNATION	CATALOG NAME	NUMBER SOURCE	LAUNCH	PERIOD MINUTES	INCL-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES	
1973 LAUNCHES (CONT.)										
1973 0345		6660	29 MAY	102.5	81.2	911	844			
1973 037A	COSMOS 504	6675	8 JUN	114.6	74.0	1480	1391			
1973 037B	COSMOS 505	6676	8 JUN	115.3	74.0	1487	1447			
1973 037C	COSMOS 506	6677	8 JUN	115.0	74.0	1480	1431			
1973 037D	COSMOS 507	6678	8 JUN	114.3	74.0	1482	1410			
1973 037E	COSMOS 508	6679	8 JUN	114.4	74.0	1479	1373			
1973 037F	COSMOS 509	6680	8 JUN	114.2	74.0	1478	1355			
1973 037G	COSMOS 510	6681	8 JUN	113.9	74.0	1473	1336			
1973 037H	COSMOS 511	6682	8 JUN	113.7	74.0	1477	1317			
1973 037J	COSMOS 512	6683	8 JUN	116.8	74.0	1594	1482			
1973 039A	EXPLORER 49	6686	10 JUN	SELENCENTRIC ORBIT						
1973 039B		6685	10 JUN	CURRENT ELEMENTS NOT MAINTAINED						
1973 039F		6725	10 JUN	SELENCENTRIC ORBIT						
1973 039G		6726	10 JUN	SELENCENTRIC ORBIT						
1973 040A		6691	12 JUN	ELEMENTS NOT AVAILABLE						
1973 040B		11940	12 JUN	ELEMENTS NOT AVAILABLE						
1973 042A	COSMOS 574	6707	20 JUN	105.0	82.9	1009	977			
1973 042B		6708	20 JUN	104.9	83.0	998	977			
1973 047A	MARS 4	6742	21 JUL	HELIOCENTRIC ORBIT						
1973 049A	MARS 5	6764	26 JUL	AREOCENTRIC ORBIT						
1973 052A	MARS 6	6768	5 AUG	AREOCENTRIC ORBIT						
1973 053A	MARS 7	6776	7 AUG	HELIOCENTRIC ORBIT						
1973 053D	CAPSULE	7224	9 AUG	HELIOCENTRIC ORBIT						
1973 054A		6787	17 AUG	101.2	98.6	830	792			
1973 054B		6788	17 AUG	101.2	98.6	839	795			
1973 056A		6791	21 AUG	CURRENT ELEMENTS NOT MAINTAINED						
1973 056B		6792	21 AUG	CURRENT ELEMENTS NOT MAINTAINED						
1973 058A	INTELSAT-4 F-7	6796	23 AUG	140.0	4.4	36000	36904			
1973 058B		6797	23 AUG	653.5	28.0	36587	544			
1973 064A	COSMOS 549	6820	8 SEP	113.5	74.0	1403	1372			
1973 064B		6820	8 SEP	113.4	74.0	1403	1358			
1973 065A	COSMOS 550	6828	14 SEP	104.7	82.9	1003	961			
1973 065B		6829	14 SEP	104.6	82.9	992	959			
1973 065A	COSMOS 558	6845	2 OCT	110.3	74.0	1491	1440			
1973 069B	COSMOS 559	6346	2 OCT	114.9	74.0	1490	1413			
1973 069C	COSMOS 590	6847	2 OCT	115.1	74.0	1485	1431			
1973 069D	COSMOS 591	6843	2 OCT	114.1	74.0	1484	1344			
1973 069E	COSMOS 592	6844	2 OCT	113.9	74.0	1483	1328			
1973 069F	COSMOS 593	6850	2 OCT	114.3	74.0	1484	1361			
1973 069G	COSMOS 594	6851	2 OCT	114.5	74.0	1484	1378			
1973 069H	COSMOS 595	6852	2 OCT	114.7	74.0	1492	1398			
1973 069J		6853	2 OCT	117.1	74.0	1621	1483			
1973 078A	EXPLORER 50	6893	20 OCT	ELEMENTS NOT AVAILABLE						
1973 078C		6896	20 OCT	105.2	28.8	1650	362			
1973 078D		6896	20 OCT	CURRENT ELEMENTS NOT MAINTAINED						
1973 080A	COSMOS 604	6907	29 OCT	95.0	81.2	550	542			
1973 080B		6908	29 OCT	95.8	81.2	591	521			
1973 081A	NAVSS 30201	6909	30 OCT	108.3	90.0	1152	888			
1973 081B		6910	30 OCT	105.4	90.0	1135	886			
1973 081C		18764	30 OCT	105.9	90.5	1182	892			

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1973 LAUNCHES (CONT.)										
1973 064A	COSMOS 060	0910	USSR	2 NOV	718.4	67.6	36413	3973		
1973 064B		0939	USSR	2 NOV	706.9	67.5	36012	3765		
1973 065A	MARINER 10	0919	US	3 NOV	HELIOCENTRIC ORBIT					
1973 066A	MARINER 3	0920	US	6 NOV	110.1	101.9	1500	1499		
1973 066E - 066GS			US	6 NOV	SEE NOTE 17*					17*
1973 0680		0930	US	10 NOV	114.3	90.9	1455	1412		
1973 069E		7039	US	10 NOV	114.0	90.8	1477	1401		
1973 068A	COSMOS 014	0903	USSR	4 DEC	100.4	74.1	795	750		
1973 0983		0903	USSR	4 DEC	100.3	74.1	789	754		
1973 098C		0907	USSR	4 DEC	99.7	74.1	759	729		
1973 098D		7009	USSR	4 DEC	100.3	74.1	790	758		
1973 100A		0973	US	13 DEC	ELEMENTS NOT AVAILABLE					
1973 1000		0974	US	13 DEC	1430.0	7.5	35799	35770		
1973 1000		0976	US	13 DEC	1515.0	6.2	38435	36190		
1973 104A	COSMOS 017	0905	USSR	19 DEC	113.9	74.0	1483	1330		
1973 104B	COSMOS 018	0906	USSR	19 DEC	115.2	74.0	1485	1442		
1973 104C	COSMOS 019	0907	USSR	19 DEC	115.0	74.0	1485	1422		
1973 104D	COSMOS 020	0908	USSR	19 DEC	115.4	74.0	1493	1450		
1973 104E	COSMOS 021	0909	USSR	19 DEC	114.7	74.0	1483	1404		
1973 104F	COSMOS 022	0910	USSR	19 DEC	114.3	74.0	1482	1369		
1973 104G	COSMOS 023	0911	USSR	19 DEC	114.0	74.0	1483	1385		
1973 104H	COSMOS 024	0912	USSR	19 DEC	114.1	74.0	1483	1349		
1973 104J		0913	USSR	19 DEC	117.0	74.0	1620	1473		
1973 107A	ORACLE 2	7003	USSR	26 DEC	105.1	74.0	1693	394		
1973 107B		7004	USSR	26 DEC	105.0	74.0	1661	387		
1973 100A	COSMOS 026	7005	USSR	27 DEC	104.0	65.4	976	915		
1973 109A	COSMOS 027	7006	USSR	29 DEC	104.9	82.9	1010	964		
1973 1090		7009	USSR	29 DEC	104.6	82.9	991	962		
1974 LAUNCHES										
1974 001A	COSMOS 020	7094	USSR	17 JAN	104.7	63.0	1069	561		
1974 001B		7095	USSR	17 JAN	104.5	83.0	993	946		
1974 011A	MEFOUR	7209	USSR	5 MAR	102.0	81.2	882	825		
1974 011B		7210	USSR	5 MAR	102.0	81.2	915	794		
1974 013A	OK-A	7213	UK	9 MAR	100.7	97.8	891	888		
1974 013B		7220	US	9 MAR	100.7	97.8	835	699		
1974 015A		7218	US	16 MAR	101.2	99.0	869	766		
1974 015B		7219	US	16 MAR	101.3	99.0	871	772		
1974 017A	COSMOS 037	7229	USSR	26 MAR	1427.1	7.2	35638	35380		
1974 017F		11507	USSR	26 MAR	1425.7	9.4	35800	35304		
1974 0200		7244	US	10 APR	ELEMENTS NOT AVAILABLE					
1974 022A	WESTAR 1	7200	US	13 APR	1441.0	1.7	40252	31512		
1974 024A	COSMOS 041	7205	USSR	23 APR	114.5	74.0	1480	1385		
1974 024B	COSMOS 042	7206	USSR	23 APR	113.7	74.0	1475	1317		
1974 024C	COSMOS 043	7207	USSR	23 APR	114.1	74.0	1480	1350		
1974 024D	COSMOS 044	7208	USSR	23 APR	113.9	74.0	1480	1332		
1974 024E	COSMOS 045	7209	USSR	23 APR	114.3	74.0	1480	1367		
1974 024F	COSMOS 046	7270	USSR	23 APR	114.7	74.0	1482	1402		
1974 024G	COSMOS 047	7271	USSR	23 APR	114.9	74.0	1481	1421		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION NAME GAIN LOSS NUMBER SOURCE LAUNCH MINUTES PERIOD INCLINATION NATION APOGEE KM. PERIGEE KM. TRANSMITTING FREQ.(MHZ) NOTES

1974 LAUNCHES (CONT.)

1974 0244	COSMOS 040	7272	USSR	23 APR	115.1	74.0	1488	1435
1974 0244		7273	USSR	23 APR	117.0	74.0	1686	1484
1974 025A	METEOR	7274	USSR	24 APR	102.4	81.2	888	853
1974 025B		7275	USSR	24 APR	102.9	81.2	918	832
1974 025A	MULNIYA 2-9	7276	USSR	25 APR	717.7	83.3	38635	1713
1974 025B		7277	USSR	25 APR	735.0	83.4	39037	2049
1974 025A	COSMOS 050	7281	USSR	29 APR	113.4	74.0	1399	1365
1974 025B		7282	USSR	29 APR	113.2	74.0	1368	1360
1974 029A	COSMOS 051	7291	USSR	15 MAY	103.4	85.0	956	882
1974 029A	COSMOS 054	7297	USSR	17 MAY	104.4	84.9	1021	911
1974 033A	SAS 1	7298	US	17 MAY	ELEMENTS NOT AVAILABLE			
1974 037A	CONA-22	7315	USSR	29 MAY	ELEMENTS NOT AVAILABLE			
1974 039A	ATS 9	7316	US	30 MAY	1412.1	7.0	35435	35193
1974 039C		7324	US	30 MAY	1436.8	7.5	35746	35567
1974 044A	COSMOS 060	7337	USSR	13 JUN	105.5	83.0	1740	387
1974 044B		7338	USSR	18 JUN	105.0	83.0	1896	393
1974 043A	COSMOS 063	7349	USSR	27 JUN	104.7	83.0	1001	961
1974 044B		7350	USSR	27 JUN	104.0	82.9	988	960
1974 050A	COSMOS 065	7352	USSR	29 JUN	717.1	86.6	38099	1020
1974 050C		7354	USSR	29 JUN	707.4	86.6	38436	1404
1974 052A	METEOR	7363	USSR	9 JUL	103.0	81.2	911	884
1974 052B		7364	USSR	9 JUL	102.9	81.2	909	848
1974 054A		7369	US	14 JUL	468.7	124.8	13763	13457
1974 054C		8999	US	14 JUL	CURRENT ELEMENTS NOT MAINTAINED			
1974 056A	MULNIYA 2-10	7376	USSR	23 JUL	717.7	83.8	39542	810
1974 056B		7382	USSR	23 JUL	733.9	84.2	39668	1500
1974 060A	MULNIYA 1-5	7392	USSR	29 JUL	1605.8	4.8	44412	35930
1974 063A		7411	US	9 AUG	101.4	98.6	869	790
1974 063B		7412	US	9 AUG	101.4	98.7	882	792
1974 066A	COSMOS 073	7417	USSR	16 AUG	75.4	81.2	540	529
1974 066B		7413	USSR	16 AUG	90.1	81.2	607	532
1974 066C		8424	USSR	16 AUG	94.7	81.2	509	503
1974 069A	COSMOS 075	7424	USSR	29 AUG	113.0	74.1	1421	1362
1974 069B		7420	USSR	29 AUG	113.5	74.1	1420	1352
1974 071A	COSMOS 076	7433	USSR	11 SEP	100.9	74.0	805	785
1974 071B		7434	USSR	11 SEP	100.0	74.1	806	771
1974 071C		8756	USSR	11 SEP	100.4	74.1	783	773
1974 071D		8829	USSR	11 SEP	100.9	74.1	815	783
1974 072A	COSMOS 077	7435	USSR	19 SEP	114.4	74.0	1464	1395
1974 072B	COSMOS 078	7436	USSR	19 SEP	115.4	74.0	1530	1465
1974 072C	COSMOS 079	7437	USSR	19 SEP	115.7	74.0	1508	1405
1974 072D	COSMOS 080	7438	USSR	19 SEP	115.0	74.0	1489	1465
1974 072E	COSMOS 081	7439	USSR	19 SEP	115.3	74.0	1470	1404
1974 072F	COSMOS 082	7440	USSR	19 SEP	116.1	74.0	1464	1481
1974 072G	COSMOS 083	7441	USSR	19 SEP	114.9	74.0	1465	1431
1974 072H	COSMOS 084	7442	USSR	19 SEP	114.7	74.0	1465	1413
1974 072J		7443	USSR	19 SEP	117.7	74.0	1633	1472
1974 075A	RESIST-2	7469	US	10 OCT	1436.2	2.2	35795	35781
1974 075C		7460	US	10 OCT	393.2	24.0	22543	257
1974 079A	COSMOS 085	7476	USSR	10 OCT	105.0	82.9	1618	969

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INTER-
NATIONAL

DESIGNATION NAME CATALOG NUMBER SOURCE LAUNCH PERIOD MINUTES INCLINATION VATION APGEE KM. PERIGEE KM. TRANSMITTING FREQ.(MHZ) NOTES

1974 LAUNCHES (CONT.)

1974 079B		7477	USSR	18 OCT	104.8	82.9	1012	960	
1974 081A	MOLNIYA 1-28	7480	USSR	24 OCT	684.2	63.7	38663	123	
1974 081D		7485	USSR	24 OCT	684.1	63.7	38571	108	
1974 083A	MEIEUR	7490	USSR	28 OCT	102.3	81.2	899	832	
1974 083B		7493	USSR	28 OCT	102.4	81.2	904	838	
1974 083C		16621	USSR	29 OCT	102.4	81.2	904	838	
1974 089A	NOAA 4	7529	US	15 NOV	114.9	101.5	1456	1443	
1974 089B	AMSAT-OSCAR 7	7530	US	16 NOV	114.9	101.6	1466	1439	
1974 089C	INTASAT	7531	SPAIN	15 NOV	114.9	101.5	1456	1440	18*
1974 089D	089EV		US	15 NOV	SEE NOTE				18*
1974 092E		7546	USSR	21 NOV	733.7	64.4	40815	323	
1974 093A	INIELSAT 4 F-8	7544	USSR	21 NOV	1443.2	2.1	35930	35919	
1974 093B		7545	US	21 NOV	653.2	26.0	36567	552	
1974 094A	SKYNET 24	7547	UK	23 NOV	1436.4	6.4	35893	35795	
1974 094D		7550	US	23 NOV	104.3	28.2	1621	297	
1974 097A	HELLIOS 1	7567	FRG	10 DEC					HELIOCENTRIC ORBIT
1974 097B		7568	US	10 DEC					CURRENT ELEMENTS NOT MAINTAINED
1974 097C		7569	US	10 DEC					HELIOCENTRIC ORBIT
1974 099A	MEIEUR	7570	FRG	10 DEC	102.2	81.2	842	839	
1974 099B		7574	USSR	17 DEC					HELIOCENTRIC ORBIT
1974 101A	SYMPHONIE-A	7578	FR/FRG	19 DEC	1436.0	3.6	36658	34871	
1974 101G		9330	US	19 DEC	665.6	12.6	37336	361	
1974 102A	MOLNIYA 2-11	7583	USSR	21 DEC	717.4	62.2	39687	650	
1974 102D		7596	USSR	21 DEC	733.8	62.3	40541	602	
1974 105A	COSMOS 700	7623	USSR	26 DEC	104.6	89.0	994	969	
1974 105B		7574	USSR	20 DEC	104.5	82.9	983	959	

1975 LAUNCHES

1975 004A	LANSAT 2	7615	US	22 JAN	103.1	98.9	914	900	
1975 004B	004HG		US	22 JAN	SEE NOTE				19*
1975 007A	COSMOS 700	7629	USSR	30 JAN	718.1	68.0	34914	5459	
1975 007D		7629	USSR	30 JAN	717.0	68.0	34992	5321	
1975 009A	MOLNIYA 2-12	7641	USSR	6 FEB	648.1	63.9	36743	124	
1975 009D		7653	USSR	6 FEB	701.3	64.0	39451	80	
1975 010A	SIAMLET-14	7646	FRANCE	6 FEB	104.2	49.8	1108	806	
1975 010B		7647	FRANCE	6 FEB	104.4	49.8	1131	802	
1975 010C		7654	FRANCE	6 FEB	103.8	49.9	1079	800	
1975 010D		7655	FRANCE	6 FEB	103.9	49.8	1085	800	
1975 010E		7659	FRANCE	6 FEB	104.1	49.8	1100	800	
1975 011A	SMS 2	7646	US	6 FEB					ELEMENTS NOT AVAILABLE
1975 012A	COSMOS 700	7603	USSR	12 FEB	113.5	69.2	1406	1369	
1975 012E		7605	USSR	12 FEB	113.3	69.2	1395	1365	
1975 016A	COSMOS 711	7678	USSR	28 FEB	119.4	74.0	1491	1469	
1975 016B	COSMOS 712	7679	USSR	28 FEB	114.9	74.0	1488	1409	
1975 016C	COSMOS 713	7680	USSR	28 FEB	114.7	74.0	1486	1393	

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	CATALOG NUMBER	NAME	SOURCE	LAUNCH	PERIOD MINUTES	INCL-NATION	APGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1975 LAUNCHES (CONT.)											
1975 016D	COSMOS 714		USSR	28 FEB	115.2	74.0	1489	1442			
1975 016E	COSMOS 715		USSR	28 FEB	115.7	74.0	1503	1467			
1975 016F	COSMOS 716		USSR	28 FEB	115.9	74.0	1512	1477			
1975 016G	COSMOS 717		USSR	28 FEB	116.1	74.0	1534	1477			
1975 016H	COSMOS 718		USSR	28 FEB	115.0	74.0	1437	1427			
1975 016J			USSR	28 FEB	117.9	74.0	1719	1456			
1975 017A			US	10 MAR	CURRENT ELEMENTS NOT MAINTAINED						
1975 017B			US	10 MAR	CURRENT ELEMENTS NOT MAINTAINED						
1975 023A	METEOR		USSR	1 APR	102.4	81.2	887	856			
1975 023B			USSR	1 APR	102.5	81.2	913	836			
1975 024A	COSMOS 723		USSR	2 APR	103.7	64.7	952	911			
1975 025A	COSMOS 724		USSR	7 APR	103.0	65.6	935	863			
1975 027A	GEUS 3		US	9 APR	101.7	115.0	641	832			
1975 027B			US	9 APR	101.4	115.0	641	807			
1975 027C			US	9 APR	101.6	115.2	888	782			
1975 027E			US	9 APR	103.7	114.9	1026	836			
1975 028A	COSMOS 720		USSR	11 APR	104.5	83.0	991	951			
1975 028B			USSR	11 APR	104.4	83.0	981	951			
1975 029A	MOLNIYA 3-2		USSR	14 APR	717.3	62.4	39603	741			
1975 029B			USSR	14 APR	733.0	62.4	40299	806			
1975 033A	ARIABAT		INDIA	19 APR	95.1	50.7	537	512			
1975 033B			USSR	19 APR	93.1	50.7	434	414			
1975 034A	COSMOS 729		USSR	22 APR	104.9	83.0	1005	972			
1975 034B			USSR	22 APR	104.8	83.0	998	970			
1975 036A	MOLNIYA 1-29		USSR	29 APR	717.6	63.6	38005	2349			
1975 036B			USSR	29 APR	732.9	64.0	38424	2071			
1975 038A	ANIK A3		CANADA	7 MAY	1439.1	2.3	35866	35820			
1975 038B			US	7 MAY	475.8	24.6	27552	238			
1975 042A	INTELSAT 4 F-1		ITSO	22 MAY	1436.3	2.1	35798	35785			
1975 042B			US	22 MAY	654.2	25.3	36639	528			
1975 043A			US	24 MAY	ELEMENTS NOT AVAILABLE						
1975 043B			US	24 MAY	ELEMENTS NOT AVAILABLE						
1975 045A	COSMOS 732		USSR	28 MAY	114.6	74.0	1468	1401			
1975 045B	COSMOS 733		USSR	28 MAY	119.2	74.0	1552	1468			
1975 045C	COSMOS 734		USSR	28 MAY	115.0	74.0	1470	1441			
1975 045D	COSMOS 735		USSR	28 MAY	115.2	74.0	1472	1459			
1975 045E	COSMOS 736		USSR	28 MAY	115.5	74.0	1484	1468			
1975 045F	COSMOS 737		USSR	28 MAY	115.9	74.0	1527	1468			
1975 045G	COSMOS 738		USSR	28 MAY	115.7	74.0	1506	1463			
1975 045H	COSMOS 739		USSR	28 MAY	114.8	74.0	1470	1421			
1975 045J			USSR	28 MAY	117.9	74.0	1693	1484			
1975 049A	MOLNIYA 1-30		USSR	5 JUN	717.2	63.7	40091	233			
1975 049B	SRET 2		FRANCE	5 JUN	CURRENT ELEMENTS NOT MAINTAINED						
1975 049C			USSR	5 JUN	736.4	64.1	40500	476			
1975 050A	VENERA 9		USSR	3 JUN	HELIOCENTRIC ORBIT						
1975 051C	SSU 1		US	8 JUN	113.5	95.1	1394	1383			
1975 051D			US	8 JUN	113.2	95.0	1403	1342			
1975 051E			US	8 JUN	113.9	95.2	1426	1382			
1975 052A	NIMBUS 6		JS	12 JUL	107.4	99.6	1111	1100			
1975 052B			US	12 JUN	107.2	99.9	1099	1092			

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1975 LAUNCHES (CONT.)										
1975 054A	VENERA 10	7947	USSR	14 JUN						
1975 054B		7963	US	19 JUN						
1975 055B		7964	US	16 JUN						
1975 066A	COSMOS 744	7968	USSR	20 JUN	95.6	81.2	558	534		
1975 066B		7969	USSR	20 JUN	96.1	81.3	603	543		
1975 067A	050 0	7970	US	21 JUN	89.8	32.9	267	262		
1975 067A		8015	USSR	8 JUL	717.0	04.0	37914	2401		
1975 067A	MOLNIYA 2-13	8016	USSR	9 JUL	733.0	04.2	38381	2720		
1975 064A	METEOR 2	8026	USSR	11 JUL	102.3	81.3	881	850		
1975 064B		8027	USSR	11 JUL	102.4	81.3	912	832		
1975 064C		8039	USSR	11 JUL	102.3	81.3	894	848		
1975 064D		8110	USSR	11 JUL	102.2	81.4	892	829		
1975 072A	COS-3	8062	ESA	9 AUG						
1975 072B		8063	US	9 AUG	129.0	89.3	3635	322		
1975 074A	COSMOS 755	8072	USSR	14 AUG	104.8	82.9	1007	966		
1975 074B		8073	USSR	14 AUG	104.7	82.9	997	963		
1975 075A	VIKING ORBITER 1	8108	US	20 AUG						
1975 076B		8111	US	20 AUG						
1975 076A	COSMOS 756	8127	USSR	22 AUG	95.9	81.2	565	558		
1975 076B		8128	USSR	22 AUG	96.4	81.2	617	649		
1975 077A	SYMPHONIE-B	8132	FR/FRG	27 AUG	1440.5	5.4	35873	35870		
1975 077B		8133	US	27 AUG	106.2	25.3	1692	406		
1975 077C		8134	US	27 AUG	655.1	12.8	36873	340		
1975 079A	MOLNIYA 1-31	8187	USSR	2 SEP	552.0	63.8	31748	117		
1975 079E		8274	USSR	2 SEP	717.8	63.8	40240	117		
1975 081A	MOLNIYA 2-14	8196	USSR	9 SEP	717.3	63.9	38140	2228		
1975 081U		8413	USSR	9 SEP	733.8	64.1	38553	2588		
1975 082A	KIKU	8197	JAPAN	9 SEP	106.0	47.0	1103	977		
1975 082B		8352	JAPAN	9 SEP	105.9	47.0	1102	975		
1975 083A	VIKING ORBITER 2	8199	US	9 SEP						
1975 083B		8272	US	9 SEP						
1975 086A	COSMOS 761	8286	USSR	17 SEP	114.6	74.0	1480	1398		
1975 086B	COSMOS 762	8286	USSR	17 SEP	115.1	74.0	1482	1436		
1975 086C	COSMOS 763	8287	USSR	17 SEP	115.8	74.0	1508	1471		
1975 086D	COSMOS 764	8288	USSR	17 SEP	116.0	74.0	1524	1477		
1975 086E	COSMOS 765	8289	USSR	17 SEP	116.3	74.0	1548	1476		
1975 086F	COSMOS 766	8290	USSR	17 SEP	114.9	74.0	1481	1417		
1975 086G	COSMOS 767	8291	USSR	17 SEP	115.3	74.0	1484	1454		
1975 086H	COSMOS 768	8292	USSR	17 SEP	115.5	74.0	1489	1469		
1975 086J		8295	USSR	17 SEP	117.8	74.0	1692	1480		
1975 087A	METEOR	8293	USSR	18 SEP	102.1	81.3	916	802		
1975 087B		8294	USSR	18 SEP	102.3	81.3	915	820		
1975 089A	COSMOS 770	8325	USSR	24 SEP	109.1	83.0	1206	1162		
1975 089B		8326	USSR	24 SEP	109.0	83.0	1198	1159		
1975 091A	INTELSAT 4A F-1	8330	ITSO	26 SEP	1436.4	2.2	35799	35786		
1975 091B		8331	US	26 SEP	664.2	21.6	36663	614		
1975 094A	COSMOS 773	8343	USSR	30 SEP	100.6	74.1	798	777		
1975 094B		8344	USSR	30 SEP	100.5	74.0	801	760		
1975 094C		8346	USSR	30 SEP	99.6	74.1	755	727		
1975 094D		14866	USSR	30 SEP	100.7	74.0	793	765		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	CATALOG NAME	NUMBER SOURCE	LAUNCH	PERIOD MINUTES	INCLIN NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1975 LAUNCHES (CONT.)									
1975 097A	COSMOS 779	8357 USSR	8 OCT	1437.3	7.2	36100	35521		
1975 097E		8415 USSR	8 OCT	CURRENT ELEMENTS NOT MAINTAINED					
1975 097F		11676 USSR	8 OCT	1438.2	8.0	35910	35745		
1975 099A	TIP 2	8361 US	12 OCT	96.8	90.4	684	628		
1975 100A	GOES 1	8368 US	16 OCT	1436.3	6.1	35911	35671	136.380	4*
1975 100C		8368 US	16 OCT	207.8	23.4	10228	268		
1975 103A	COSMOS 778	8419 USSR	4 NOV	104.8	83.0	1000	967		
1975 103B		8421 USSR	4 NOV	104.7	83.0	994	961		
1975 105A	MOLNIYA 3-3	8425 USSR	14 NOV	717.8	64.0	37969	2386		
1975 105D		8462 USSR	14 NOV	733.8	64.2	38439	2702		
1975 112A	COSMOS 763	8458 USSR	28 NOV	100.8	74.1	803	785		
1975 112B		8459 USSR	28 NOV	100.6	74.1	800	774		
1975 112C		8757 USSR	28 NOV	100.3	74.0	774	767		
1975 112D		14801 USSR	28 NOV	100.9	74.1	809	794		
1975 116A	COSMOS 785	8473 USSR	12 DEC	104.2	65.1	1024	889		
1975 117A	RCA SATELITE 1	8476 US	13 DEC	1446.0	2.0	38091	38868		
1975 118A		8482 US	14 DEC	ELEMENTS NOT AVAILABLE					
1975 118C		8516 US	14 DEC	ELEMENTS NOT AVAILABLE					
1975 118D		8517 US	14 DEC	ELEMENTS NOT AVAILABLE					
1975 121A	MOLNIYA 2-15	8492 USSR	17 DEC	714.0	63.4	40002	163		
1975 121D		8529 USSR	17 DEC	723.3	64.0	40508	119		
1975 122A	PROTON 4	8610 USSR	22 DEC	ELEMENTS NOT MAINTAINED					
1975 123A	RADUGA 1	8513 USSR	22 DEC	ELEMENTS NOT AVAILABLE					
1975 123D		8546 USSR	22 DEC	391.2	46.6	22368	312		
1975 123E		8547 USSR	22 DEC	487.6	45.9	27969	329		
1975 123F		11508 USSR	23 DEC	1341.7	0.6	37789	30046		
1975 124A	METEOR	8519 USSR	25 DEC	102.2	81.3	885	840		
1975 124B		8520 USSR	25 DEC	102.3	81.3	904	831		
1975 129A	MOLNIYA 3-4	8521 USSR	27 DEC	ELEMENTS NOT AVAILABLE					
1975 129F		8609 USSR	27 DEC	711.0	63.9	39891	129		
1976 LAUNCHES									
1976 003A	HELLIOS 2	8582 FRG	15 JAN	HELIOCENTRIC ORBIT					
1976 003B		8583 US	15 JAN	HELIOCENTRIC ORBIT					
1976 003C		8584 US	15 JAN	HELIOCENTRIC ORBIT					
1976 004A	CTS	8585 CANADA	17 JAN	1435.6	6.8	35813	35739		
1976 006A	COSMOS 789	8591 USSR	20 JAN	104.9	83.0	1010	968		
1976 006B		8597 USSR	20 JAN	104.8	83.0	1001	966		
1976 006A		8601 USSR	22 JAN	720.3	63.8	38151	2326		
1976 006D	MOLNIYA 1-32	8701 USSR	22 JAN	695.4	64.0	36917	2327		
1976 008A	COSMOS 791	8607 USSR	28 JAN	114.7	74.1	1484	1399		
1976 008B	COSMOS 792	8608 USSR	28 JAN	115.1	74.1	1489	1433		
1976 008C	COSMOS 793	8609 USSR	28 JAN	114.9	74.1	1488	1415		
1976 008D	COSMOS 794	8610 USSR	28 JAN	115.3	74.1	1492	1449		
1976 008E	COSMOS 795	8611 USSR	28 JAN	115.6	74.0	1496	1464		
1976 008F	COSMOS 796	8612 USSR	28 JAN	115.8	74.1	1513	1470		
1976 008G	COSMOS 797	8613 USSR	28 JAN	116.0	74.1	1627	1477		
1976 008H	COSMOS 798	8614 USSR	28 JAN	116.3	74.1	1552	1476		
1976 008J		8615 USSR	28 JAN	117.9	74.1	1693	1481		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG	NUMBER SOURCE	LAUNCH	PERIOD MINUTES	INGLI- NATION	APR6EE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1976 LAUNCHES (CONT.)										
1976 010A	INTELSAT 4A F-2		8620	ITSO	29 JAN	1442.7	2.0	35942	35889	
1976 010B			8621	US	29 JAN	654.4	21.5	36612	570	
1976 011A	COSMOS 800		8645	USSR	3 FEB	105.0	83.0	1008	978	
1976 011B			8646	USSR	3 FEB	104.3	83.0	991	983	
1976 014A	COSMOS 803		8688	USSR	12 FEB	95.8	65.9	594	523	
1976 017A	MARISAT I		8697	US	19 FEB	1436.2	6.1	35806	35770	
1976 017C			8702	US	19 FEB	213.3	24.4	10640	251	
1976 019A	OME		8709	JAPAN	29 FEB	105.1	69.7	1005	991	
1976 019B			8710	JAPAN	29 FEB	105.1	69.7	1008	992	
1976 021A	MOLNIYA 1-33		8741	USSR	11 MAR	717.7	62.9	39383	960	
1976 021D			9411	USSR	11 MAR	731.1	63.4	40065	943	
1976 022A	COSMOS 807		8744	USSR	12 MAR	106.7	82.9	1761	369	
1976 022B			8745	USSR	12 MAR	105.1	82.9	1621	380	
1976 023A	LES 8		8746	US	15 MAR	1436.1	22.5	36799	36772	
1976 023B	LES 9		8747	US	15 MAR	1436.1	22.5	35812	35761	
1976 023C	SOLRAD 11A		8748	US	15 MAR	CURRENT ELEMENTS NOT MAINTAINED				
1976 023D	SOLRAD 11B		8749	US	15 MAR	CURRENT ELEMENTS NOT MAINTAINED				
1976 023F			8751	US	15 MAR	1465.6	22.8	36954	36760	
1976 023G			8752	US	15 MAR	CURRENT ELEMENTS NOT MAINTAINED				
1976 023J			8632	US	15 MAR	CURRENT ELEMENTS NOT MAINTAINED				
1976 023K			13753	US	15 MAR	1420.9	5.2	35523	35454	
1976 024A	COSMOS 808		8754	USSR	16 MAR	95.8	81.2	570	544	
1976 024B			8755	USSR	16 MAR	96.8	81.3	600	523	
1976 029A	RCA SATCUM II		8774	US	26 MAR	1460.2	1.7	36500	36011	
1976 032A	METEOR		8799	USSR	7 APR	102.1	81.3	864	633	
1976 032B			8800	USSR	7 APR	102.2	81.2	935	794	
1976 035A	NATO III-A		8808	NATO	22 APR	1436.3	4.9	35805	35775	
1976 038A			8818	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 038B			8819	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 038C	SSU-1		8835	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 038D	SSU-2		8836	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 038E			8839	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 038F			8842	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 038G			8843	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 038H			8859	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 038J	SSU-3		8884	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 038K			9796	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 038L			9996	US	30 APR	ELEMENTS NOT AVAILABLE				
1976 039A	LA6E95		8620	US	4 MAY	225.4	109.8	5946	5837	
1976 039B			8821	US	4 MAY	122.1	109.6	3257	295	
1976 039C			8622	US	4 MAY	225.4	109.8	5944	5836	
1976 039D			14514	US	4 MAY	126.9	110.0	3686	290	
1976 041A	MOLNIYA 3-5		8633	USSR	12 MAY	714.9	63.4	39881	332	
1976 041D			8844	USSR	12 MAY	733.0	63.7	40836	265	
1976 042A	COMSTAR I		8830	US	13 MAY	1436.2	3.8	35820	35750	
1976 042B			8840	US	13 MAY	648.8	20.9	36329	565	
1976 043A	METEOR		8845	USSR	15 MAY	102.1	81.3	686	829	
1976 043B			8846	USSR	15 MAY	102.3	81.2	907	829	
1976 047A	P-76-5		8860	US	22 MAY	105.5	99.6	1849	986	

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1976 LAUNCHES (CONT.)											
1976 047B		8861	US	22 MAY	105.5	99.6	1049	988			
1976 047C		8867	US	22 MAY	106.4	99.4	1116	1002			
1976 047D		8868	US	22 MAY	104.7	100.1	1020	941			
1976 060A		8871	US	2 JUN	CURRENT ELEMENTS NOT MAINTAINED						
1976 050B		8872	US	2 JUN	CURRENT ELEMENTS NOT MAINTAINED						
1976 061A	COSMOS 823	8873	USSR	2 JUN	104.9	83.0	1004	973			
1976 051B		8874	USSR	2 JUN	104.8	83.0	1001	968			
1976 063A	MARISAT 2	8882	US	10 JUN	143.6	4.1	36797	36776			
1976 053F		8910	US	10 JUN	530.4	25.1	30398	257			
1976 064A	COSMOS 826	8889	USSR	15 JUN	114.6	74.0	1485	1393			
1976 054B	COSMOS 826	8890	USSR	15 JUN	116.2	74.0	1542	1480			
1976 064C	COSMOS 827	8891	USSR	15 JUN	114.9	74.0	1487	1411			
1976 054D	COSMOS 828	8892	USSR	15 JUN	115.1	74.0	1487	1431			
1976 064E	COSMOS 829	8893	USSR	15 JUN	115.3	74.0	1489	1448			
1976 054F	COSMOS 830	8894	USSR	15 JUN	115.5	74.0	1491	1466			
1976 064G	COSMOS 831	8895	USSR	15 JUN	115.8	74.0	1506	1472			
1976 054H	COSMOS 832	8896	USSR	15 JUN	116.0	74.0	1518	1480			
1976 064J		8897	USSR	15 JUN	117.9	74.0	1686	1486			
1976 059A		8916	US	26 JUN	ELEMENTS NOT AVAILABLE						
1976 069C		8918	US	26 JUN	ELEMENTS NOT AVAILABLE						
1976 059D		8919	US	26 JUN	CURRENT ELEMENTS NOT MAINTAINED						
1976 061A	COSMOS 836	8923	USSR	29 JUN	100.7	74.1	808	779			
1976 061B		8924	USSR	29 JUN	100.6	74.1	797	776			
1976 061C		8972	USSR	29 JUN	100.2	74.1	770	760			
1976 061D		14815	USSR	29 JUN	100.3	74.1	786	757			
1976 066C		9000	US	8 JUL	ELEMENTS NOT AVAILABLE						
1976 066A	PALAPA 1	9009	INDNSA	8 JUL	1436.3	0.8	35615	35765			
1976 066C		9017	US	8 JUL	431.4	24.4	24851	216			
1976 067A	COSMOS 839	9011	USSR	8 JUL	115.7	65.9	2058	912		20*	
1976 067B	067BH		USSR	8 JUL	SEE NOTE 20*						
1976 069A	COSMOS 841	9022	USSR	15 JUL	100.6	74.0	796	775			
1976 069B		9023	USSR	15 JUL	100.5	74.0	794	766			
1976 069C		9704	USSR	15 JUL	100.3	74.1	778	766			
1976 069D		13499	USSR	15 JUL	101.0	74.1	823	787			
1976 070A	COSMOS 842	9025	USSR	21 JUL	104.8	83.0	1006	964			
1976 070B		9044	USSR	21 JUL	104.7	83.0	990	968			
1976 073A	COMSTAR 2	9047	US	22 JUL	1436.0	2.1	35787	35784			
1976 073B		9329	US	22 JUL	646.9	21.6	36223	576			
1976 074A	MOLNIYA 1-35	9049	USSR	23 JUL	717.7	63.8	39972	380			
1976 074E		9269	USSR	23 JUL	697.9	64.1	38936	434			
1976 077A	NOAA 5	9057	US	29 JUL	116.2	101.8	1519	1502		21*	
1976 077B	077BU		US	29 JUL	SEE NOTE 21*						
1976 078A	COSMOS 846	9061	USSR	29 JUL	104.7	82.9	1010	946			
1976 078B		9062	USSR	29 JUL	104.6	82.9	993	949			
1976 080A		9270	US	6 AUG	CURRENT ELEMENTS NOT MAINTAINED						
1976 080B		9271	US	6 AUG	CURRENT ELEMENTS NOT MAINTAINED						
1976 085A	COSMOS 851	9389	USSR	27 AUG	94.1	81.2	493	454			
1976 085B		9990	USSR	27 AUG	95.3	81.2	493	485			
1976 091A	DMSP-F1	9415	US	11 SEP	ELEMENTS NOT AVAILABLE						
1976 091B		9419	US	11 SEP	ELEMENTS NOT AVAILABLE						

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APPROXIMATE PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1976 LAUNCHES (CONT.)									
1976 091C		9420	US	11 SEP	ELEMENTS NOT AVAILABLE				
1976 091E		9404	US	11 SEP	ELEMENTS NOT AVAILABLE				
1976 091G		9519	US	11 SEP	ELEMENTS NOT AVAILABLE				
1976 092A	HAPOKA	9416	USSR	11 SEP	ELEMENTS NOT AVAILABLE				
1976 090A	COSMUS 800	9443	USSR	29 SEP	100.7	74.0	802	779	
1976 090B		9474	USSR	29 SEP	100.6	74.0	797	773	
1976 090C		14016	USSR	29 SEP	100.9	74.1	819	786	
1976 090D		14017	USSR	29 SEP	100.9	74.1	766	763	
1976 101A	AKRISAT J	9478	US	14 OCT	1436.2	9.0	35794	35782	
1976 102A	MEFEUK	9481	USSR	16 OCT	102.3	81.3	800	844	
1976 102B		9432	USSR	16 OCT	102.4	81.3	910	826	
1976 103A	COSMUS 800	9400	USSR	17 OCT	104.3	64.7	1003	917	
1976 104A	COSMUS 801	9494	USSR	21 OCT	104.2	64.9	1008	910	
1976 100A	COSMUS 802	9496	USSR	22 OCT	718.8	67.3	37849	2882	
1976 105B - 105P			USSR	22 OCT	SEE NOTE		22*		22*
1976 107A	AKRAK	9003	USSR	26 OCT	1435.7	7.1	30029	35029	
1976 107F		11509	USSR	26 OCT	1419.3	7.0	35492	35423	
1976 108A	COSMUS 804	9507	USSR	29 OCT	104.7	82.9	1004	959	
1976 1090		9510	USSR	29 OCT	104.0	82.9	993	957	
1976 111A	MULNIYA 2	9507	USSR	25 NOV	CURRENT ELEMENTS NOT MAINTAINED				
1976 110A	MULNIYA 2-10	9374	USSR	2 DEC	717.1	63.9	39705	553	
1976 110B		9577	USSR	2 DEC	731.9	64.2	40394	655	
1976 110A	COSMUS 871	9586	USSR	7 DEC	114.0	74.0	1402	1410	
1976 110B	COSMUS 872	9584	USSR	7 DEC	114.4	74.0	1462	1396	
1976 110C	COSMUS 873	9590	USSR	7 DEC	115.5	74.0	1494	1462	
1976 110D	COSMUS 874	9591	USSR	7 DEC	115.7	74.0	1614	1462	
1976 110E	COSMUS 875	9592	USSR	7 DEC	114.9	74.0	1462	1434	
1976 110F	COSMUS 876	9593	USSR	7 DEC	116.0	74.0	1537	1461	
1976 110G	COSMUS 877	9594	USSR	7 DEC	115.1	74.0	1462	1453	
1976 110H	COSMUS 878	9595	USSR	7 DEC	115.3	74.0	1473	1461	
1976 110J		9598	USSR	7 DEC	117.5	74.0	1684	1463	
1976 1200 - 1206C			USSR	9 DEC	SEE NOTE		23*		23*
1976 122A	COSMUS 800	9610	USSR	15 DEC	104.7	82.9	1007	953	
1976 122B		9613	USSR	15 DEC	104.0	82.9	998	982	
1976 120A	COSMUS 800	9634	USSR	27 DEC	111.4	85.8	2078	499	
1976 120B - 1200V			USSR	27 DEC	SEE NOTE		24*		24*
1976 127A	MULNIYA 3-6	9635	USSR	28 DEC	700.2	64.4	39038	393	
1976 127B		9647	USSR	28 DEC	732.4	64.7	40845	526	
1976 123A	COSMUS 807	9637	USSR	29 DEC	104.7	82.9	1013	944	
1976 123B		9638	USSR	28 DEC	104.5	82.9	997	948	
1977 LAUNCHES									
1977 002A	MEFEUK 2-2	9661	USSR	6 JAN	102.9	81.3	896	881	
1977 002B		9662	USSR	6 JAN	102.9	81.3	933	854	
1977 002C		9663	USSR	6 JAN	102.7	81.3	892	882	
1977 002D		9664	USSR	6 JAN	102.3	81.3	895	884	
1977 004A	COSMUS 890	9737	USSR	20 JAN	105.0	83.0	1013	976	
1977 004B		9736	USSR	20 JAN	104.9	83.0	1000	975	
1977 005A	MIFU 1100	9786	MIFU	28 JAN	1436.1	4.3	36001	36773	

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APUEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1977 LAUNCHES (CONT.)										
1977 0050		9750	US	29 JAN	104.0	20.0	1276	621		
1977 0050		9009	US	20 JAN	CURRENT ELEMENTS NOT MAINTAINED					
1977 005E		9810	US	28 JAN	CURRENT ELEMENTS NOT MAINTAINED					
1977 005F		9811	US	28 JAN	CURRENT ELEMENTS NOT MAINTAINED					
1977 007A		9803	US	6 FEB	ELEMENTS NOT AVAILABLE					
1977 007C		9805	US	6 FEB	ELEMENTS NOT AVAILABLE					
1977 007D		9806	US	6 FEB	ELEMENTS NOT AVAILABLE					
1977 010A	MOENIYA 2-17	9829	USSR	11 FEB	717.7	63.9	30300	2050		
1977 010C		9830	USSR	11 FEB	731.0	64.2	38228	2078		
1977 012A	FANSEI 3	9841	JAPAN	19 FEB	134.1	55.0	3797	605		
1977 012C		9843	JAPAN	19 FEB	134.1	55.7	3795	604		
1977 012E		9881	JAPAN	19 FEB	133.5	59.2	3770	782		
1977 012F		9882	JAPAN	19 FEB	133.7	59.9	3781	782		
1977 012G		9883	JAPAN	19 FEB	134.3	59.6	3802	811		
1977 012H		12057	JAPAN	19 FEB	134.2	59.3	3803	806		
1977 012J		13133	JAPAN	19 FEB	133.4	55.8	3734	802		
1977 013A	COSMOS 874	9846	USSR	21 FEB	104.9	82.9	1007	965		
1977 013B		9848	USSR	21 FEB	104.7	82.9	992	970		
1977 014A	NIKU 2	9852	JAPAN	23 FEB	1430.0	9.2	35792	35780		
1977 014J		9859	JAPAN	23 FEB	CURRENT ELEMENTS NOT MAINTAINED					
1977 015A	COSMOS 875	9853	USSR	26 FEB	95.3	81.2	503	546		
1977 015B		9854	USSR	26 FEB	96.1	81.2	619	522		
1977 016A	PALAPA 2	9862	INDONESIA	10 MAR	1435.2	3.1	36070	34867		
1977 021A	MOENIYA 1-30	9860	USSR	24 MAR	717.7	63.9	38349	2003		
1977 021D		9827	USSR	24 MAR	732.9	64.2	39059	2036		
1977 024A	NIKON	9903	USSR	5 APR	102.3	81.3	889	847		
1977 024B		9904	USSR	5 APR	102.4	81.3	914	834		
1977 024C		9907	USSR	5 APR	103.0	82.9	952	909		
1977 027A	COSMOS 903	9911	USSR	11 APR	717.3	67.4	35521	4809		
1977 027B		9921	USSR	11 APR	723.9	67.5	35990	4666		
1977 027E		10946	USSR	11 APR	CURRENT ELEMENTS NOT MAINTAINED					
1977 027K	STAR 605	9931	USA	20 APR	CURRENT ELEMENTS NOT AVAILABLE					
1977 029C		9933	US	20 APR	136.0	20.0	4579	232		
1977 032K	MOENIYA 3-7	9941	USSR	20 APR	717.7	64.0	38309	2042		
1977 034A		10000	US	12 MAY	1489.6	9.6	36922	36731		
1977 034B		10001	US	12 MAY	1436.0	5.2	35787	35781		
1977 034C		10002	US	12 MAY	1509.9	5.7	38392	35931		
1977 035A	COSMOS 909	10010	USSR	19 MAY	117.0	65.9	2108	985		
1977 035B		10011	USSR	19 MAY	118.9	65.9	2099	981		
1977 035C		10013	USSR	19 MAY	117.0	65.9	2109	983		
1977 035A		10016	US	23 MAY	ELEMENTS NOT AVAILABLE					
1977 035B		10017	US	23 MAY	ELEMENTS NOT AVAILABLE					
1977 035C		15422	US	23 MAY	ELEMENTS NOT AVAILABLE					
1977 039A	COSMOS 911	10019	USSR	25 MAY	104.7	82.9	999	962		
1977 039B		10020	USSR	25 MAY	104.0	82.9	998	949		
1977 041A	INFELSAT 4R 1-4	10024	IFSO	26 MAY	1436.2	1.0	35799	35776		
1977 041B		10025	US	26 MAY	648.0	21.0	36290	603		
1977 044A	COSMOS 92	10033	US	3 JUN	ELEMENTS NOT AVAILABLE					
1977 044B		10034	US	3 JUN	ELEMENTS NOT AVAILABLE					
1977 044C		10037	US	3 JUN	ELEMENTS NOT AVAILABLE					

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG	NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1977 LAUNCHES (CONT.)											
1977 0440			10080	US	5 JUN	ELEMENTS NOT AVAILABLE					
1977 047A	COSMOS 917		10067	USSR	10 JUN	717.1	67.9	35804	4514		
1977 047D			10089	USSR	10 JUN	722.4	68.0	36163	4410		
1977 048A	048A-2		10061	US	16 JUN	1436.0	4.3	35811	35762	136.380	4*
1977 048B			10062	US	16 JUN	108.7	23.4	1765	575		
1977 048F			10409	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1977 053A			10091	US	23 JUN	718.0	64.8	20244	20119		
1977 053B			10960	US	23 JUN	314.4	64.2	16978	896		
1977 054A	MULNIYA 1-37		10092	USSR	24 JUN	717.6	63.6	39504	782		
1977 054B			10158	USSR	24 JUN	699.3	63.9	38162	1079		
1977 055A	COSMOS 921		10095	USSR	24 JUN	97.5	75.8	674	603		
1977 055B			10096	USSR	24 JUN	97.5	75.8	676	601		
1977 057A	METEOR		10113	USSR	29 JUN	95.9	97.5	535	542		
1977 057B			10114	USSR	29 JUN	97.0	97.6	628	600		
1977 059A	COSMOS 923		10120	USSR	1 JUL	100.8	74.0	807	766		
1977 059B			10121	USSR	1 JUL	100.7	74.1	805	774		
1977 059C			14802	USSR	1 JUL	100.7	74.1	803	781		
1977 059D			14818	USSR	1 JUL	100.8	74.1	790	769		
1977 061A	COSMOS 925		10134	USSR	7 JUL	95.8	81.2	567	551		
1977 061B			10135	USSR	7 JUL	96.2	81.2	639	538		
1977 062A	COSMOS 926		10137	USSR	8 JUL	105.0	82.9	1016	969		
1977 062B			10139	USSR	8 JUL	104.9	82.9	1002	973		
1977 064A	COSMOS 928		10141	USSR	13 JUL	104.6	83.0	1004	950		
1977 064B			10142	USSR	13 JUL	104.5	83.0	1002	940		
1977 065A	HIMAWARI		10143	JAPAN	14 JUL	1436.1	4.5	35800	35775		
1977 065B				US	14 JUL	SEE NOTE	25*				25*
1977 068A	COSMOS 931		10150	USSR	20 JUL	717.6	67.9	36476	3868		
1977 068B			10167	USSR	20 JUL	720.7	67.9	36466	4030		
1977 068E			12906	USSR	20 JUL	715.7	65.0	36253	3996		
1977 068F			12996	USSR	20 JUL	704.4	61.8	38095	1596		
1977 069G			14000	USSR	20 JUL	718.6	65.7	36856	3543		
1977 071A	RADEKA-3		10159	USSR	23 JUL	1436.2	6.0	35820	35766		
1977 071F			11570	USSR	23 JUL	1474.6	5.8	38156	34918		
1977 076A	VUYAKEN-2		10271	US	20 AUG	SOLAR SYSTEM ESCAPE TRAJECTORY					
1977 076B			10272	US	20 AUG	HELIOCENTRIC ORBIT					
1977 076C			10273	US	20 AUG	HELIOCENTRIC ORBIT					
1977 079A	COSMOS 939		10262	USSR	24 AUG	114.3	74.0	1460	1430		
1977 079B	COSMOS 940		10266	USSR	24 AUG	114.4	74.0	1469	1392		
1977 079C	COSMOS 941		10287	JSSR	24 AUG	114.5	74.0	1461	1410		
1977 079D	COSMOS 942		10288	USSR	24 AUG	115.9	74.0	1531	1460		
1977 079E	COSMOS 943		10289	USSR	24 AUG	115.0	74.0	1460	1448		
1977 079F	COSMOS 944		10290	USSR	24 AUG	115.2	74.0	1469	1469		
1977 079G	COSMOS 945		10291	USSR	24 AUG	115.4	74.0	1490	1459		
1977 079H	COSMOS 946		10292	USSR	24 AUG	115.6	74.0	1509	1460		
1977 079J			10293	USSR	24 AUG	117.5	74.0	1676	1461		
1977 080A	ZINIU		10294	ITALY	28 AUG	1437.3	2.8	35993	35626		
1977 080B			10295	US	29 AUG	115.5	27.1	2084	874		
1977 082A	MULNIYA 1-36		10315	USSR	30 AUG	717.5	64.0	39343	996		
1977 082E			10309	USSR	30 AUG	729.5	64.3	39906	1024		
1977 084A	VUYAKEN-1		10321	US	5 SEP	HELIOCENTRIC ORBIT					

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1977 LAUNCHES (CONT.)										
1977 084B		10322	US	5 SEP	HELIOCENTRIC ORBIT					
1977 084C		10324	US	5 SEP	HELIOCENTRIC ORBIT					
1977 087A	COSMOS 951	10352	USSR	13 SEP	104.8	83.0	1012	959		
1977 087B		10355	USSR	13 SEP	104.7	83.0	1007	956		
1977 088A	COSMOS 952	10358	USSR	16 SEP	104.1	64.9	990	912		
1977 091A	COSMOS 955	10362	USSR	20 SEP	96.3	81.2	592	587		
1977 091B		10365	USSR	20 SEP	96.5	81.2	628	551		
1977 092A	SAKURA	10366	USSR	20 SEP	ELEMENTS NOT AVAILABLE					
1977 092G		11571	USSR	20 SEP	1421.8	6.5	35545	35468		
1977 093A	PROGNOS 6	10370	USSR	22 SEP	ELEMENTS NOT AVAILABLE					
1977 102A	ISEL 1	10422	US	22 OCT	3440.9	20.5	134249	3994	2215.790*	4*
									2265.140	
1977 102B	ISEE 2	10423	EJA	22 OCT	3441.0	20.5	134243	4000	2260.790	4*
1977 102C		10426	US	22 OCT	CURRENT ELEMENTS NOT MAINTAINED					
1977 105A	MULNIYA 3-8	10455	USSR	28 OCT	718.0	64.0	39277	1086		
1977 105E		10455	USSR	28 OCT	731.5	64.3	39922	1107		
1977 106A	TRANSAT	10457	US	28 OCT	106.3	89.8	1101	1060		
1977 106B		10462	US	28 OCT	106.9	89.8	1101	1061		
1977 106C		12858	US	28 OCT	106.9	89.5	1100	1068		
1977 107A	COSMOS 962	10459	USSR	28 OCT	104.6	83.0	1003	963		
1977 107B		10461	USSR	28 OCT	104.8	82.9	1003	952		
1977 108A	METEOSAT 1	10489	ESA	23 NOV	1434.7	9.6	35803	35712		
1977 108B		10490	US	23 NOV	116.0	28.3	2512	491		
1977 108C		10490	US	23 NOV	269.7	27.3	14675	225		
1977 109A	COSMOS 963	10491	USSR	24 NOV	109.2	82.9	1200	1175		
1977 109B		10492	USSR	24 NOV	109.1	82.9	1200	1170		
1977 112A		10502	US	8 DEC	ELEMENTS NOT AVAILABLE					
1977 112B		10504	US	8 DEC	ELEMENTS NOT AVAILABLE					
1977 112C		10523	US	8 DEC	ELEMENTS NOT AVAILABLE					
1977 112D		10529	US	8 DEC	ELEMENTS NOT AVAILABLE					
1977 112E		10544	US	8 DEC	ELEMENTS NOT AVAILABLE					
1977 112F		10544	US	8 DEC	ELEMENTS NOT AVAILABLE					
1977 112G		10595	US	8 DEC	ELEMENTS NOT AVAILABLE					
1977 112H		12859	US	8 DEC	ELEMENTS NOT AVAILABLE					
1977 114A		10508	US	11 DEC	CURRENT ELEMENTS NOT MAINTAINED					
1977 114B	COSMOS 967	10512	USSR	13 DEC	104.7	65.5	1003	959		
1977 116A		10513	USSR	13 DEC	104.6	65.8	999	945		
1977 116C		10518	USSR	13 DEC	104.7	65.8	999	958		
1977 116D		10526	USSR	13 DEC	104.9	65.8	1016	961		
1977 117A	METJUR 2-3	10514	USSR	14 DEC	102.3	81.2	880	849		
1977 117B		10515	USSR	14 DEC	102.3	81.2	901	835		
1977 117C		14950	USSR	14 DEC	102.3	81.2	901	835		
1977 118A	SAKURA	10516	JAPAN	15 DEC	1455.8	3.8	36209	36144		
1977 118B		10517	US	15 DEC	110.3	28.7	1932	486		
1977 118C		10519	US	15 DEC	110.4	29.1	1946	544		
1977 119A	COSMOS 958	10520	USSR	16 DEC	100.6	74.0	798	771		
1977 119B		10521	USSR	16 DEC	100.4	74.0	790	763		
1977 119C		10524	USSR	16 DEC	100.0	74.0	803	773		
1977 119D		10524	USSR	16 DEC	100.7	74.0	806	774		

1977 LAUNCHED (CONT.)

INTER- NATIONAL DESIGNATION	MARK	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN- NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1977 121A	COSMOS 970	10531	USSR	21 DEC	105.0	65.9	1115	929		26*
1977 121B	TELON		USSR	21 DEC	SEE NOTE					
1977 122A	COSMOS 971	10535	USSR	23 DEC	104.9	62.9	1005	972		
1977 122B		10547	USSR	23 DEC	104.7	82.9	995	968		
1977 123A	COSMOS 972	10539	USSR	27 DEC	103.8	75.8	1101	711		
1977 123B		10541	USSR	27 DEC	103.7	75.8	1158	711		
1978 LAUNCHED										
1978 002A	INTELSAT 4A F-3	10557	US	7 JAN	1436.1	0.4	35791	35783		
1978 002B		10722	US	17 JAN	650.6	21.7	36326	601		
1978 004A	COSMOS 973	10501	USSR	10 JAN	96.0	81.2	604	589		
1978 004B		10582	USSR	10 JAN	95.0	81.2	643	504		
1978 005A	COSMOS 976	10591	USSR	10 JAN	115.1	74.0	1462	1453		
1978 005B	COSMOS 977	10584	USSR	10 JAN	114.4	74.0	1462	1398		
1978 005C	COSMOS 978	10595	USSR	10 JAN	114.7	74.0	1462	1416		
1978 005D	COSMOS 979	10530	USSR	10 JAN	114.9	74.0	1462	1435		
1978 005E	COSMOS 980	10547	USSR	10 JAN	115.3	74.0	1473	1461		
1978 005F	COSMOS 981	10546	USSR	10 JAN	115.5	74.0	1493	1462		
1978 005G	COSMOS 982	10569	USSR	10 JAN	115.7	74.0	1513	1462		
1978 005H	COSMOS 983	10590	USSR	10 JAN	116.0	74.0	1534	1462		
1978 005I		10591	USSR	10 JAN	117.7	74.0	1692	1459		
1978 007A	COSMOS 988	10594	USSR	17 JAN	104.6	82.9	1018	935		
1978 007B		10600	USSR	17 JAN	104.5	82.9	1009	935		
1978 009A	MULNIYA J-3	10505	USSR	24 JAN	717.3	84.8	38714	1641		
1978 009L		10607	USSR	24 JAN	732.3	85.6	39129	1954		
1978 012A	IJE	10537	US	26 JAN	1436.2	30.0	43752	27925	136.860, 2249.800	4*
1978 012C		10723	US	26 JAN	651.4	30.1	38273	273		
1978 014A	NYUKAU	10604	JAPAN	4 FEB	134.1	65.4	3950	635		
1978 014C		12323	JAPAN	4 FEB	134.0	65.3	3952	636		
1978 014D		12330	JAPAN	4 FEB	134.2	65.4	3977	630		
1978 014E		12331	JAPAN	4 FEB	134.2	65.4	3886	637		
1978 014F		12406	JAPAN	4 FEB	133.7	65.9	3913	651		
1978 016A	REISAFUM-1	10654	US	9 FEB	1436.2	4.6	35825	35750		
1978 016C		12903	US	9 FEB	261.3	26.4	14007	250		
1978 016B		13978	US	9 FEB	239.3	26.4	12449	333		
1978 018A	JME 2	10674	JAPAN	15 FEB	107.2	69.4	1213	972		
1978 018B		10677	JAPAN	15 FEB	107.1	69.4	1215	972		
1978 018C		13132	JAPAN	15 FEB	107.9	69.2	1269	970		
1978 019A	COSMOS 990	10576	USSR	17 FEB	109.6	74.0	798	771		
1978 019B		10677	USSR	17 FEB	100.4	74.0	792	763		
1978 019C		14003	USSR	17 FEB	106.2	74.0	774	760		
1978 019D		13500	USSR	17 FEB	100.7	74.1	802	779		
1978 020A		10604	US	22 FEB	718.0	63.3	20381	19982		
1978 020B		10601	US	22 FEB	268.5	63.6	14292	525		
1978 021A		10684	US	25 FEB						CURRENT ELEMENTS NOT MAINTAINED
1978 021b		10689	US	25 FEB						CURRENT ELEMENTS NOT MAINTAINED
1978 022A	COSMOS 991	10692	USSR	28 FEB	104.7	83.0	1005	951		
1978 022B		10693	USSR	28 FEB	104.0	83.0	990	959		
1978 024A	MULNIYA J-3	10676	USSR	2 MAR	717.0	64.6	39111	941		

OBJECTS IN ORBIT

INFORM NATIONAL DESIGNATION	NAME	CATEGORY NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL. NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1976 0240		10693	USSR	2 MAR	729.4	04.7	39740	1167		
1976 0260	COMBAT-3	10702	US	3 MAR	103.1	98.9	910	896		
1976 0260	ARBAT-JULIAN-5	10703	US	5 MAR	103.0	98.8	906	899		
1976 0260	ARBAT		US	5 MAR	SEE NOTE		27M			27*
1976 0260	COMBAT-4	10731	USSR	15 MAR	104.9	82.9	1004	973		
1976 0290		10732	USSR	15 MAR	104.0	82.9	994	971		
1976 0290		10734	US	16 MAR	ELEMENTS NOT AVAILABLE					
1976 0310	COMBAT-5	10740	USSR	20 MAR	104.0	82.9	1004	961		
1976 0310		10745	USSR	23 MAR	104.0	82.9	996	947		
1976 0340	COMBAT-6	10746	USSR	31 MAR	104.7	83.0	1008	950		
1976 0340		10777	USSR	31 MAR	104.6	83.0	993	958		
1976 0350	INTEGRAI-1	10776	USSR	31 MAR	1436.3	0.4	35800	35778		
1976 0350		10779	US	31 MAR	048.6	22.0	36291	590		
1976 0350		10787	US	7 APR	CURRENT ELEMENTS NOT MAINTAINED					
1976 0350		10785	US	7 APR	CURRENT ELEMENTS NOT MAINTAINED					
1976 0350	ARBAT	10782	JAPAN	7 APR	1433.7	4.5	37702	33775		
1976 0350		10783	US	7 APR	111.2	25.2	1991	574		
1976 0350		10784	US	7 APR	272.5	26.9	14639	249		
1976 0420		10820	US	1 MAY	101.0	98.6	812	802		
1976 0420		10899	US	1 MAY	99.0	98.9	746	736		
1976 0420		10894	US	1 MAY	99.7	98.5	749	738		
1976 0420		10914	US	1 MAY	98.1	98.5	672	663		
1976 0440	JCS-2	10900	USA	11 MAY	1430.2	2.7	35802	35777		
1976 0440		10896	US	11 MAY	159.9	27.9	3028	1571		
1976 0440		10897	US	11 MAY	CURRENT ELEMENTS NOT MAINTAINED					
1976 0450	COMBAT-1000	10898	USSR	12 MAY	96.3	81.2	691	577		
1976 0450		10901	USSR	12 MAY	96.9	81.2	643	574		
1976 0470		10903	US	13 MAY	717.9	64.5	20499	19863		
1976 0470		10904	US	13 MAY	207.0	63.7	15532	538		
1976 0510	PIONEER VENUS-3	10911	US	20 MAY	ELEMENTS NOT AVAILABLE					
1976 0510	ORBITER									
1976 0510		10917	US	20 MAY	HELIOCENTRIC ORBIT					
1976 0530	COMBAT-1011	10917	USSR	23 MAY	104.7	82.9	1010	953		
1976 0530		10918	USSR	23 MAY	104.6	82.9	1000	952		
1976 0550	MULNIYA-1-40	10925	USSR	2 JUN	717.0	64.1	39447	891		
1976 0550		10944	USSR	2 JUN	732.5	64.3	40077	998		
1976 0550	COMBAT-1013	10930	USSR	7 JUN	115.3	74.0	1553	1475		
1976 0550	COMBAT-1014	10931	USSR	7 JUN	116.1	74.0	1830	1476		
1976 0550	COMBAT-1015	10932	USSR	7 JUN	115.8	74.0	1515	1471		
1976 0550	COMBAT-1016	10933	USSR	7 JUN	115.6	74.0	1497	1468		
1976 0550	COMBAT-1017	10934	USSR	7 JUN	115.4	74.0	1490	1455		
1976 0550	COMBAT-1018	10935	USSR	7 JUN	115.2	74.0	1480	1440		
1976 0550	COMBAT-1019	10936	USSR	7 JUN	115.0	74.0	1486	1422		
1976 0550	COMBAT-1020	10937	USSR	7 JUN	114.8	74.0	1462	1405		
1976 0550		10938	USSR	7 JUN	117.9	74.0	1090	1479		
1976 0550		10941	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1976 0550		10942	US	16 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1976 0550		10953	US	16 JUN	1430.3	3.1	35797	35785		135.560, 136.380, 4*
1976 0550		10954	US	16 JUN	107.0	20.4	1694	560		137.190

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	CATALOG NUMBER	NUMBER	SOURCE	LAUNCH DATE	PERIOD MINUTES	INCLINATION	NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1976 LAUNCHES (CONT.)											
1978 063A	COSMOS 1023	10961	USSR	21 JUN	100.5	74.1		791	775		
1978 063B		10962	USSR	21 JUN	100.4	74.1		791	759		
1978 063C		14804	USSR	21 JUN	99.8	74.0		759	735		
1978 063D		13497	USSR	21 JUN	100.9	74.1		816	787		
1978 064A	SEASAT 1	10967	US	27 JUN	100.4	108.0		779	775		
1978 064B		14244	US	27 JUN	95.5	108.0		554	531		
1978 066A	COSMOS 1024	10970	USSR	28 JUN	718.3	67.8		36328	4050		
1978 066C		10998	USSR	28 JUN	720.3	67.9		36642	3938		
1978 067A	COSMOS 1025	10973	USSR	28 JUN	97.0	82.5		627	602		
1978 067B		10974	USSR	28 JUN	97.4	82.6		648	622		
1978 068A	COSMOS J	10975	US	29 JUN	1451.8	0.2		36182	36002		
1978 068B		10976	US	29 JUN	649.3	21.2		36307	613		
1978 071A	ESA GEUS 2	10981	ESA	14 JUL	1449.0	9.5		36071	36005		
1978 071C		10983	US	14 JUL	814.8	24.3		29447	849		
1978 072A	MULNIYA 1-41	10984	USSR	14 JUL	717.6	64.7		39213	1130		
1978 072D		11073	USSR	14 JUL	732.7	64.3		39692	1393		
1978 073A	RADUGA 4	10987	USSR	18 JUL	ELEMENTS NOT AVAILABLE						
1978 073D		11074	USSR	18 JUL	CURRENT ELEMENTS NOT MAINTAINED						
1978 073E		11941	USSR	18 JUL	1475.9	6.2		36813	36511		
1978 074A	COSMOS 1027	10991	USSR	27 JUL	104.7	82.9		998	969		
1978 074B		10992	USSR	27 JUL	104.6	82.9		987	961		
1978 075A		10993	US	5 AUG	ELEMENTS NOT AVAILABLE						
1978 075B		10994	US	5 AUG	CURRENT ELEMENTS NOT MAINTAINED						
1978 078C		11003	US	8 AUG	HELIOCENTRIC ORBIT						
1978 079A	ICL	11004	US	12 AUG	3755.0	21.7		878445	705638	2217.490	4*
1978 079C		11006	US	12 AUG	CURRENT ELEMENTS NOT MAINTAINED						
1978 079D		13413	US	12 AUG	ELEMENTS NOT AVAILABLE						
1978 080A	MULNIYA 1-42	11007	USSR	22 AUG	717.8	64.0		38727	1625		
1978 080B		11075	USSR	22 AUG	732.4	64.3		39449	1622		
1978 083A	COSMOS 1030	11015	USSR	6 SEP	717.0	66.6		36734	3580		
1978 083D		11678	USSR	6 SEP	723.6	66.8		36934	3709		
1978 083E		12907	USSR	6 SEP	711.4	64.0		36813	3227		
1978 083F		12919	USSR	6 SEP	714.8	64.0		37421	3020		
1978 083G		13959	USSR	6 SEP	721.7	63.7		37601	2948		
1978 084A	VENERA 11	11020	USSR	9 SEP	HELIOCENTRIC ORBIT						
1978 086A	VENERA 12	11025	USSR	14 SEP	HELIOCENTRIC ORBIT						
1978 087A	YUKIKIKEN	11027	JAPAN	16 SEP	421.0	31.8		24133	266		
1978 087B		11028	JAPAN	16 SEP	413.0	31.4		23732	253		
1978 091A	COSMOS 1034	11042	USSR	4 OCT	114.9	74.0		1479	1420		
1978 091B	COSMOS 1035	11044	USSR	4 OCT	114.7	74.0		1478	1400		
1978 091C	COSMOS 1036	11045	USSR	4 OCT	115.1	74.0		1479	1440		
1978 091D	COSMOS 1037	11046	USSR	4 OCT	115.3	74.0		1479	1460		
1978 091E	COSMOS 1038	11047	USSR	4 OCT	115.5	74.0		1484	1475		
1978 091F	COSMOS 1039	11048	USSR	4 OCT	116.3	74.0		1549	1477		
1978 091G	COSMOS 1040	11049	USSR	4 OCT	116.0	74.0		1525	1477		
1978 091H	COSMOS 1041	11050	USSR	4 OCT	115.8	74.0		1506	1476		
1978 091J		11051	USSR	4 OCT	118.0	74.0		1697	1480		
1978 093A		11054	US	7 OCT	717.9	64.1		20289	20073		
1978 093B		11076	US	7 OCT	262.8	63.2		13428	306		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL. NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1978 LAUNCHES (CONT.)										
1978 094A	COSMUS 1043	11055	USSR	10 OCT	96.2	81.2	584	572		
1978 094B		11056	USSR	10 OCT	96.4	81.2	625	549		
1978 095A	MOLNIYA 3-10	11057	USSR	13 OCT	717.5	64.0	39475	864		
1978 095B		11074	USSR	13 OCT	734.2	64.1	40209	952		
1978 096A	TIROS-N	11060	US	13 OCT	101.3	99.1	852	835		
1978 096B		11061	US	13 OCT	101.1	99.0	814	810		
1978 096C		11062	US	13 OCT	101.1	99.0	813	809		
1978 098A	NIMBUS 7	11080	US	24 OCT	104.1	99.3	957	943	2273.500	4*
									2211.000	
1978 098B	GAMEO	11031	US	24 OCT	104.0	99.4	970	926		
1978 100A	COSMUS 1040	11084	USSR	26 OCT	120.3	82.6	1703	1682		
1978 100B	RADIO 1	11085	USSR	26 OCT	120.3	82.5	1706	1682		
1978 100C	RADIO 2	11086	USSR	26 OCT	120.3	82.5	1704	1682		
1978 100D		11087	USSR	26 OCT	120.2	82.5	1708	1682		
1978 100E		11177	USSR	26 OCT	114.8	74.0	1470	1421		
1978 105A	COSMUS 1048	11111	USSR	10 NOV	100.7	74.0	803	776		
1978 105B		11112	USSR	16 NOV	100.5	74.0	810	762		
1978 105C		11113	USSR	16 NOV	100.6	74.0	796	777		
1978 105D		11114	USSR	16 NOV	100.4	74.0	788	770		
1978 105A	NATO III-C	11115	NATO	19 NOV	143.1	1.0	35809	35765		
1978 109A	COSMUS 1051	11128	USSR	5 DEC	114.6	74.0	1484	1392		
1978 109B	COSMUS 1052	11129	USSR	5 DEC	114.8	74.0	1436	1409		
1978 109C	COSMUS 1053	11130	USSR	5 DEC	115.0	74.0	1486	1427		
1978 109D	COSMUS 1054	11131	USSR	5 DEC	115.2	74.0	1438	1445		
1978 109E	COSMUS 1055	11132	USSR	5 DEC	115.5	74.0	1488	1463		
1978 109F	COSMUS 1056	11133	USSR	5 DEC	115.7	74.0	1501	1470		
1978 109G	COSMUS 1057	11134	USSR	5 DEC	115.9	74.0	1514	1478		
1978 109H	COSMUS 1058	11135	USSR	5 DEC	116.1	74.0	1536	1478		
1978 109J		11136	USSR	5 DEC	118.1	74.0	1706	1483		
1978 112A		11141	US	11 DEC	718.0	63.3	20313	20050		
1978 112B		11142	US	11 DEC	270.6	63.4	14536	403		
1978 113A		11144	US	14 DEC	143.2	4.1	35736	35779		
1978 113B		11145	US	14 DEC	143.0	4.1	35796	35773		
1978 113D		11147	US	14 DEC	133.2	2.4	35607	32126		
1978 116A	ANIK 51	11153	CANADA	16 DEC	143.1	0.0	35799	35775		
1978 117A	COSMUS 1063	11155	USSR	19 DEC	96.5	81.2	594	590		
1978 117B		11156	USSR	19 DEC	96.5	81.2	636	548		
1978 118A	HORIZONT 1	11159	USSR	19 DEC	143.3	13.5	51018	20561		
1978 118C		11926	USSR	19 DEC	1417.4	13.4	50306	20534		
1978 119A	COSMUS 1064	11161	USSR	20 DEC	95.0	82.9	655	383		
1978 119B		11162	USSR	20 DEC	93.7	82.9	550	357		
1978 121A	COSMUS 1066	11165	USSR	23 DEC	102.1	81.2	895	821		
1978 121B		11166	USSR	23 DEC	102.0	81.2	902	801		
1978 122A	COSMUS 1067	11168	USSR	26 DEC	109.0	83.0	1209	1159		
1978 122B		11170	USSR	26 DEC	108.9	83.0	1195	1157		
1979 LAUNCHES										
1979 003A	COSMUS 1072	11238	USSR	16 JAN	104.0	82.9	1014	957		
1979 003B		11239	USSR	16 JAN	104.7	82.9	1012	949		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL- NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1979 LAUNCHES (CONT.)										
1979 004A	MOLNIYA 3-11	11240	USSR	16 JAN	717.9	64.2	39121	1240		
1979 004B		11241	USSR	16 JAN	732.9	64.5	39060	1233		
1979 005A	METEOR 1-29	11251	USSR	25 JAN	97.0	97.6	643	581		
1979 005B		11252	USSR	25 JAN	96.3	97.7	593	573		
1979 007A	SCATHA	11256	US	30 JAN	1416.7	4.6	42735	28075		
1979 007A	AYAME-1	11261	JAPAN	6 FEB	1314.5	0.7	37548	29134		
1979 011A	COSMUS 1076	11265	USSR	12 FEB	96.8	82.5	620	594		
1979 011B		11267	USSR	12 FEB	97.4	82.6	646	619		
1979 012A	COSMUS 1077	11268	USSR	13 FEB	96.4	81.2	590	581		
1979 012B		11269	USSR	13 FEB	96.4	81.2	629	544		
1979 013A	SAGE	11270	US	18 FEB	194.5	55.0	522	405		
1979 013A	ERRAN-3	11273	USSR	21 FEB	1436.7	5.7	35950	35639		
1979 015D		11300	USSR	21 FEB	1421.0	5.0	35341	35441		
1979 017A	GOLUB-140	11278	US	24 FEB	95.3	97.7	648	513		37*
1979 017A	- 01700		US	24 FEB	95.4	97.7	611	460		37*
1979 017C		16726	US	24 FEB	95.4	97.7	611	460		
1979 020A	INTERCOSMOS 19	11285	USSR	27 FEB	98.4	74.0	376	453		
1979 020B		11286	USSR	27 FEB	98.6	74.0	892	473		
1979 021A	METEOR 2-4	11288	USSR	1 MAR	102.1	81.2	878	839		
1979 021B		11289	USSR	1 MAR	102.1	81.2	916	801		
1979 021C		11290	USSR	1 MAR	102.2	81.2	889	831		
1979 021D		14632	USSR	1 MAR	102.9	81.3	934	854		
1979 024A	COSMUS 1081	11296	USSR	15 MAR	114.5	74.0	1403	1402		
1979 024B	COSMUS 1082	11297	USSR	15 MAR	114.7	74.0	1404	1421		
1979 024C	COSMUS 1083	11298	USSR	15 MAR	114.9	74.0	1404	1440		
1979 024D	COSMUS 1084	11299	USSR	15 MAR	115.2	74.0	1404	1460		
1979 024E	COSMUS 1085	11300	USSR	15 MAR	115.5	74.0	1502	1463		
1979 024F	COSMUS 1086	11301	USSR	15 MAR	115.4	74.0	1480	1463		
1979 024G	COSMUS 1087	11302	USSR	15 MAR	115.8	74.0	1522	1464		
1979 024H	COSMUS 1088	11303	USSR	15 MAR	116.1	74.0	1544	1464		
1979 024J		11304	USSR	15 MAR	117.0	74.0	1608	1456		
1979 025B		11306	US	16 MAR	ELEMENTS NOT AVAILABLE					
1979 026A	COSMUS 1089	11308	USSR	21 MAR	104.7	83.0	938	760		
1979 026B		11309	USSR	21 MAR	104.6	83.0	991	963		
1979 028A	COSMUS 1091	11320	USSR	7 APR	104.8	82.9	1005	963		
1979 028B		11321	USSR	7 APR	104.7	82.9	992	966		
1979 030A	COSMUS 1092	11326	USSR	11 APR	104.7	82.9	1003	961		
1979 030B		11327	USSR	11 APR	104.6	82.9	998	957		
1979 031A	MOLNIYA 1-4J	11329	USSR	12 APR	717.9	64.3	38539	1819		
1979 031B		11331	USSR	12 APR	732.2	65.0	39061	2013		
1979 032A	COSMUS 1093	11331	USSR	14 APR	96.3	81.2	584	575		
1979 032B		11332	USSR	14 APR	96.7	81.2	648	555		
1979 035A	RADUGA 5	11343	USSR	25 APR	ELEMENTS NOT AVAILABLE					
1979 039A	REFSATEM-2	11353	US	4 MAY	1436.2	3.3	36110	35467		
1979 040A	COSMUS 1104	11376	USSR	31 MAY	104.7	82.9	1006	954		
1979 040B		11377	USSR	31 MAY	104.6	82.9	990	960		
1979 047A	UK 6	11382	UK	2 JUN	95.6	55.0	567	530		
1979 047B		11383	US	2 JUN	93.3	55.0	441	429		
1979 048A	MOLNIYA 3-12	11384	USSR	5 JUN	717.7	64.1	38673	1675		
1979 048B		11384	USSR	5 JUN	712.4	64.4	38672	1418		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL- NATION	APGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1979 LAUNCHES (CONT.)										
1979 050A		11389	US	6 JUN	ELEMENTS NOT AVAILABLE					
1979 050B		11403	US	6 JUN	ELEMENTS NOT AVAILABLE					
1979 050C		11408	US	6 JUN	ELEMENTS NOT AVAILABLE					
1979 050D		11534	US	6 JUN	ELEMENTS NOT AVAILABLE					
1979 051A	0443A44	11592	INDIA	7 JUN	92.9	50.7	415	412		
1979 053A		11597	US	10 JUN	ELEMENTS NOT AVAILABLE					
1979 053C		11436	US	10 JUN	ELEMENTS NOT AVAILABLE					
1979 057A	044A 3	11410	US	27 JUN	101.0	58.5	614	797	136.770, 1698.000, 1702.500	4*
1979 057B		11419	US	27 JUN	100.5	56.5	766	779		
1979 057C		11634	US	27 JUN	100.4	58.5	732	773		
1979 058A	0444B 110	11417	JSSR	27 JUN	CURRENT ELEMENTS NOT MAINTAINED					
1979 058B		11559	USSR	27 JUN	721.6	67.4	36503	3638		
1979 058C		12033	JSSR	27 JUN	715.2	67.3	36572	3653		
1979 058F		12034	USSR	27 JUN	718.9	66.7	37038	3370		
1979 058G		12999	JSSR	27 JUN	719.6	66.2	39114	1329		
1979 058H		12995	USSR	27 JUN	598.9	66.3	36251	1169		
1979 058J		11969	USSR	27 JUN	720.9	67.2	37969	2636		
1979 062A	COSMOS 1110	11425	JSSR	28 JUN	100.7	74.0	604	782		
1979 062B		11427	USSR	28 JUN	100.6	74.0	602	769		
1979 062C		14956	USSR	28 JUN	100.3	74.1	777	770		
1979 062D		15734	USSR	28 JUN	100.6	74.0	792	784		
1979 062E	HORIZONT 2	11449	USSR	5 JUL	1526.6	4.9	37684	37393		
1979 062F		14009	USSR	8 JUL	1474.4	6.2	36646	36514		
1979 067A	COSMOS 1116	11457	USSR	20 JUL	95.9	61.2	592	542		
1979 067B		11458	USSR	20 JUL	96.3	61.2	621	540		
1979 070A	MULINIYA 1-44	11474	JSSR	31 JUL	717.8	64.2	39332	1021		
1979 070B		11909	JSSR	31 JUL	733.1	64.3	40027	1079		
1979 072A	RESTAR 3	11434	US	10 AUG	1436.1	0.0	35799	35775		
1979 072A	COSMOS 1124	11509	USSR	28 AUG	716.4	67.0	36805	3481		
1979 077D		11550	USSR	26 AUG	723.9	67.0	37136	3517		
1979 077E		12014	USSR	26 AUG	601.9	64.2	36025	2543		
1979 077F		12015	USSR	26 AUG	708.7	64.3	35960	2947		
1979 077G		12919	USSR	26 AUG	696.8	63.6	36895	1904		
1979 077H		12817	USSR	26 AUG	720.6	63.3	37929	2564		
1979 078A	COSMOS 1125	11619	USSR	28 AUG	100.7	74.0	602	784		
1979 078B		11511	USSR	28 AUG	100.6	74.0	600	774		
1979 078C		14809	USSR	28 AUG	100.3	74.1	778	769		
1979 078D		14806	USSR	28 AUG	101.0	74.0	612	603		
1979 084A	COSMOS 1130	11594	JSSR	25 SEP	114.6	74.0	1479	1396		
1979 084B	COSMOS 1131	11539	USSR	25 SEP	114.3	74.0	1480	1409		
1979 084C	COSMOS 1132	11844	USSR	29 SEP	114.9	74.0	1480	1424		
1979 084D	COSMOS 1133	11541	USSR	29 SEP	115.1	74.0	1481	1437		
1979 084E	COSMOS 1134	11542	USSR	25 SEP	115.3	74.0	1461	1452		
1979 084F	COSMOS 1135	11543	JSSR	25 SEP	115.4	74.0	1491	1459		
1979 084G	COSMOS 1136	11544	USSR	25 SEP	115.6	74.0	1496	1470		
1979 084H	COSMOS 1137	11545	USSR	25 SEP	115.6	74.0	1511	1470		
1979 084J		11546	USSR	25 SEP	117.8	74.0	1632	1481		

OBJECTS IN BRACKET

INTER-NATIONAL DESIGNATION	NAML	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1979 LAUNCHES (CONT.)										
1979 086A		11558	US	1 OCT	ELEMENTS NOT AVAILABLE					
1979 086C		11560	US	1 OCT	ELEMENTS NOT AVAILABLE					
1979 087A	EKRAN 4	11501	USSR	3 OCT	1436.5	1.0	36810	34778		
1979 089A	COSMOS 1140	11573	USSR	11 OCT	106.5	74.1	794	771		
1979 089B		11574	USSR	11 OCT	100.4	74.1	789	704		
1979 089C		14807	USSR	11 OCT	100.3	74.1	780	765		
1979 089D		14345	USSR	11 OCT	100.7	74.0	803	775		
1979 090A	COSMOS 1141	11585	USSR	10 OCT	104.0	82.9	999	952		
1979 090B		11586	USSR	16 OCT	104.5	82.9	990	949		
1979 090C		11587	USSR	16 OCT	103.6	82.9	950	903		
1979 091A	MULNIYA 1-45	11539	USSR	20 OCT	717.7	04.7	38261	2091		
1979 091B		11692	USSR	20 OCT	732.4	04.9	38730	2341		
1979 093A	COSMOS 1143	11600	USSR	26 OCT	96.7	81.2	611	593		
1979 093B		11601	USSR	26 OCT	96.8	81.2	642	567		
1979 095A	MELUR 2-5	11605	USSR	31 OCT	102.4	81.2	882	864		
1979 095B		11608	USSR	31 OCT	102.5	81.2	910	836		
1979 098A		11621	US	21 NOV	1436.3	3.3	35792	35787		
1979 098B		11622	US	21 NOV	1440.1	3.3	35715	35813		
1979 098C		11623	US	21 NOV	1510.8	3.7	38589	35883		
1979 099A	COSMOS 1145	11629	USSR	27 NOV	96.5	81.2	594	586		
1979 099B		11630	USSR	27 NOV	96.7	81.2	642	554		
1979 101A	RCA SATCOM III	11635	US	7 DEC	789.0	10.4	35549	8260		
1979 104A	ARIANE VI	11645	ESA	24 DEC	377.3	17.8	21651	182		
1979 105A	HOKUZUN J	11649	USSR	29 DEC	1436.1	4.7	35790	35780		
1979 105L		11684	USSR	28 DEC	1439.3	4.8	36300	36176		
1980 LAUNCHES										
1980 002A	MULNIYA 1-40	11662	USSR	11 JAN	717.7	64.1	39231	1117		
1980 002F		11670	USSR	11 JAN	732.7	64.4	39991	1095		
1980 003A	COSMOS 1150	11667	USSR	14 JAN	104.9	83.0	1011	964		
1980 003B		11668	USSR	14 JAN	104.7	83.0	997	965		
1980 004A	FLTSATCOM J	11669	US	18 JAN	1436.1	3.0	35800	35771		
1980 004B		11715	US	18 JAN	205.7	25.9	14391	239		
1980 005A	COSMOS 1151	11671	USSR	23 JAN	97.3	82.5	639	614		
1980 005B		11672	USSR	23 JAN	97.4	82.5	649	622		
1980 007A	COSMOS 1153	11680	USSR	25 JAN	104.9	82.9	1015	959		
1980 007B		11691	USSR	25 JAN	104.7	82.9	1011	953		
1980 008A	COSMOS 1154	11692	USSR	30 JAN	96.8	81.2	610	604		
1980 008B		11693	USSR	30 JAN	96.9	81.2	659	565		
1980 011A		11690	US	9 FEB	717.9	63.8	20355	19990		
1980 011B		11705	US	9 FEB	240.5	63.4	15894	400		
1980 012A	COSMOS 1156	11691	USSR	11 FEB	114.5	74.0	1472	1390		
1980 012B	COSMOS 1157	11692	USSR	11 FEB	114.0	74.0	1475	1412		
1980 012C	COSMOS 1158	11693	USSR	11 FEB	115.0	74.0	1474	1432		
1980 012D	COSMOS 1159	11694	USSR	11 FEB	115.2	74.0	1477	1445		
1980 012E	COSMOS 1160	11695	USSR	11 FEB	115.4	74.0	1481	1463		
1980 012F	COSMOS 1161	11696	USSR	11 FEB	115.6	74.0	1501	1465		
1980 012G	COSMOS 1162	11697	USSR	11 FEB	115.8	74.0	1517	1470		
1980 012H	COSMOS 1163	11698	USSR	11 FEB	116.1	74.0	1541	1469		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN- INATION	APOGEE KM.	PERIGEE KM.	NOTES
1980 LAUNCHES (CONT.)									
1980 012J		11699	USSR	11 FEB	117.0	74.0	1093	1466	
1980 014A	SMM	11703	US	14 FEB	94.4	28.6	493	490	2287-500
1980 014B		11704	US	14 FEB	94.0	28.5	459	465	
1980 016A	RADUGA-6	11708	USSR	20 FEB	1435.4	4.8	35059	35086	
1980 016D		11728	USSR	20 FEB	1475.1	5.1	36000	36487	
1980 018A	AYAME-2	11719	JAPAN	22 FEB	1411.9	1.0	37299	33333	
1980 019A		11720	US	3 MAR	ELEMENTS NOT AVAILABLE				
1980 019B		11721	US	3 MAR	ELEMENTS NOT AVAILABLE				
1980 019C		11731	US	3 MAR	ELEMENTS NOT AVAILABLE				
1980 019D		11732	US	3 MAR	ELEMENTS NOT AVAILABLE				
1980 019E		11733	US	3 MAR	ELEMENTS NOT AVAILABLE				
1980 019F		11734	US	3 MAR	ELEMENTS NOT AVAILABLE				
1980 019G		11745	US	3 MAR	ELEMENTS NOT AVAILABLE				
1980 019H		11746	US	3 MAR	ELEMENTS NOT AVAILABLE				
1980 022A	COSMOS 1168	11735	USSR	17 MAR	104.8	82.9	1011	950	
1980 022B		11736	USSR	17 MAR	104.7	82.9	1003	953	
1980 022C		12404	USSR	17 MAR	104.1	82.9	974	927	
1980 026A	COSMOS 1171	11750	USSR	3 APR	104.8	85.8	1008	963	
1980 026B		11751	USSR	3 APR	104.7	85.8	994	965	
1980 026C		11752	USSR	3 APR	104.8	85.8	1007	962	
1980 023A	COSMOS 1172	11755	USSR	12 APR	716.9	69.2	37019	3290	
1980 028E		11762	USSR	12 APR	722.2	66.7	37174	3399	
1980 030A	COSMOS 1174	11765	USSR	19 APR	104.0	86.1	1352	387	
1980 030B	030AX		USSR	19 APR	SEE NOTE 28*				28*
1980 032A		11783	US	20 APR	717.9	64.0	20488	19873	
1980 032B		11791	US	20 APR	256.9	63.3	13605	813	
1980 034A	COSMOS 1175	11785	JSSR	29 APR	103.4	64.8	904	883	
1980 034B		11771	JSSR	29 APR	103.1	64.8	930	871	
1980 037A	COSMOS 1177	11796	USSR	14 MAY	90.8	82.9	933	278	
1980 037B	COSMOS 1181	11803	USSR	20 MAY	104.5	82.9	1002	970	
1980 037C		11804	JSSR	20 MAY	104.7	82.9	994	966	
1980 044A	COSMOS 1184	11821	USSR	4 JUN	96.0	81.2	813	693	
1980 044B		11822	JSSR	4 JUN	97.1	81.3	853	571	
1980 047A	HORIZONT-4	11841	USSR	14 JUN	1436.2	4.3	35827	35747	
1980 047F		11862	USSR	14 JUN	1470.3	4.4	36571	36330	
1980 050A	COSMOS 1189	11844	USSR	14 JUN	717.0	67.6	37330	2981	
1980 050B		11847	USSR	14 JUN	722.8	67.7	37646	2955	
1980 051A	METEOR 1-30	11849	USSR	18 JUN	96.1	97.7	681	541	
1980 051B		11849	JSSR	18 JUN	96.9	97.7	639	585	
1980 052C		11852	US	18 JUN	ELEMENTS NOT AVAILABLE				
1980 053A	MULIYA 1-47	11855	JSSR	21 JUN	717.9	64.8	38377	1981	
1980 053D		11861	USSR	21 JUN	733.1	65.0	39044	2062	
1980 056A	COSMOS 1190	11869	USSR	1 JUL	100.7	74.0	800	782	
1980 056B		11879	USSR	1 JUL	100.6	74.1	798	777	
1980 056C		14503	USSR	1 JUL	101.3	74.0	834	803	
1980 056D		14809	USSR	1 JUL	101.1	74.0	822	800	
1980 057A	COSMOS 1191	11871	JSSR	2 JUL	710.4	60.8	36974	3313	
1980 057D		11884	USSR	2 JUL	722.0	67.0	37335	3225	
1980 057E		13999	JSSR	2 JUL	708.6	65.0	37650	2245	
1980 058A	COSMOS 1192	11875	USSR	7 JUL	114.5	74.0	1472	1394	

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN- ATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1980 LAUNCHES (CONT.)										
1980 0500	COSMOS 1193	11570	USSR	9 JUL	114.7	74.0	1473	1412		
1980 0506	COSMOS 1194	11677	USSR	9 JUL	114.4	74.0	1472	1430		
1980 0508	COSMOS 1195	11675	USSR	9 JUL	115.1	74.0	1473	1448		
1980 0508	COSMOS 1196	11675	USSR	9 JUL	115.3	74.0	1473	1460		
1980 0508	COSMOS 1197	11690	USSR	9 JUL	115.5	74.0	1490	1469		
1980 0508	COSMOS 1198	11661	USSR	9 JUL	115.7	74.0	1506	1472		
1980 0508	COSMOS 1199	11882	USSR	9 JUL	116.0	74.0	1529	1471		
1980 0509	COSMOS 1200	11883	USSR	9 JUL	117.9	74.0	1679	1469		
1980 0604	EKKAN 5	11890	USSR	14 JUL	1438.4	9.6	69711	1953		
1980 0606	COSMOS 1201	14193	USSR	14 JUL	1412.9	9.7	35403	35198		
1980 0608	MULNIYA J-1J	11896	USSR	18 JUL	717.5	63.7	38458	1897		
1980 0630	COSMOS 1202	11999	USSR	18 JUL	732.5	63.9	38906	2112		
1980 0634	COSMOS 1203	11932	USSR	18 AUG	90.8	81.2	607	602		
1980 0634	COSMOS 1204	11933	USSR	18 AUG	97.9	81.2	657	670		
1980 0734	METEOR 2-0	11902	USSR	9 SEP	102.2	81.2	891	830		
1980 0738	COSMOS 1205	11903	USSR	9 SEP	102.3	81.2	903	820		
1980 0744	GUES 4	11964	US	9 SEP	1436.2	2.6	35814	35764	2209.086	4*
									2214.000	
1980 074C		11970	US	9 SEP	2254.5	2.0	67230	33910		
1980 0814	HAUBA 7	12003	USSR	8 OCT	1446.3	4.4	36810	35769		
1980 081F		12447	USSR	5 OCT	1440.5	4.6	35910	35835		
1980 083A	COSMOS 1217	12035	USSR	24 OCT	716.4	67.2	37489	2794		
1980 0850		12035	USSR	24 OCT	722.0	67.5	37768	2792		
1980 087A	FLISATCOM 4	12646	US	31 OCT	1436.0	2.5	36809	35759		
1980 087B		12069	US	31 OCT	246.7	20.2	13107	199		
1980 089A	COSMOS 1220	12084	USSR	4 NOV	99.1	86.0	671	663		
1980 089B - 089D			USSR	4 NOV	SEE NOTE	2.5*				29*
1980 091A	SEA 1	12005	US	15 NOV	1436.2	0.0	36791	35785		
1980 092A	MULNIYA 1-40	12050	USSR	16 NOV	717.8	64.6	37853	2501		
1980 092B		12070	USSR	16 NOV	733.6	64.7	38480	2651		
1980 093A	COSMOS 1222	12071	USSR	21 NOV	96.8	81.2	609	605		
1980 093B		12072	USSR	21 NOV	98.9	81.2	656	666		
1980 095A	COSMOS 1223	12073	USSR	27 NOV	718.3	64.0	37125	3252		
1980 095B		12086	USSR	27 NOV	723.3	64.2	37345	3281		
1980 097A	COSMOS 1225	12087	USSR	5 DEC	104.3	82.9	1026	943		
1980 097B		12086	USSR	5 DEC	104.0	82.9	1014	940		
1980 098A	INTELSAT 3 F-2	12089	1150	6 DEC	1436.1	0.0	35805	35769		
1980 098B		12449	US	6 DEC	246.7	20.2	12457	230		
1980 099A	COSMOS 1226	12091	USSR	10 DEC	104.8	82.9	1010	958		
1980 099B		12092	USSR	10 DEC	104.0	82.9	999			
1980 100A		12093	US	13 DEC	ELEMENTS NOT AVAILABLE					
1980 100B		12094	US	13 DEC	ELEMENTS NOT AVAILABLE					
1980 102A	COSMOS 1229	12107	USSR	23 DEC	114.4	74.0	1462	1392		
1980 102B	COSMOS 1230	12108	USSR	23 DEC	114.6	74.0	1462	1413		
1980 102C	COSMOS 1231	12109	USSR	23 DEC	114.5	74.0	1462	1398		
1980 102D	COSMOS 1232	12110	USSR	23 DEC	114.9	74.0	1462	1404		
1980 102E	COSMOS 1233	12111	USSR	23 DEC	114.6	74.0	1462	1411		
1980 102F	COSMOS 1234	12112	USSR	23 DEC	114.7	74.0	1462	1417		
1980 102G	COSMOS 1235	12113	USSR	23 DEC	114.6	74.0	1462	1408		
1980 102H	COSMOS 1236	12114	USSR	23 DEC	114.6	74.0	1462	1412		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES	
1980 LAUNCHES (CONT.)											
1980 102J		12113	USSR	23 DEC	114.9	74.0	1467	1435			
1980 103K	PROTON 7	12119	USSR	29 DEC	507.4	09.0	197304	970			
1980 104A	ENRAN 3	12120	USSR	26 DEC	1430.1	4.3	35020	35751			
1980 104E		12471	USSR	26 DEC	1421.0	4.3	35611	35366			
1981 LAUNCHES											
1981 002A	MOLNIYA 3-14	12133	USSR	9 JAN	717.0	04.0	39616	729			
1981 002B		12134	USSR	9 JAN	732.2	03.9	40280	774			
1981 003A	COSMOS 1235	12136	USSR	10 JAN	106.0	83.0	1869	399			
1981 003B		12137	USSR	16 JAN	107.4	83.0	1816	398			
1981 006A	COSMOS 1241	12149	USSR	21 JAN	104.9	65.0	995	987			
1981 006B		12150	USSR	21 JAN	104.7	65.0	1015	942			
1981 006C		12151	USSR	21 JAN	104.9	65.0	994	984			
1981 008A	COSMOS 1242	12154	USSR	27 JAN	97.2	81.2	636	607			
1981 008B		12155	USSR	27 JAN	97.2	81.2	675	570			
1981 009A	MOLNIYA 1-49	12159	USSR	30 JAN	717.2	03.7	38947	1377			
1981 009B		12159	USSR	30 JAN	731.6	03.6	39502	1531			
1981 012A	NINUS	12275	JAPAN	11 FEB	536.2	28.1	30759	212			
1981 012C		12707	JAPAN	11 FEB	507.3	28.4	33432	275			
1981 013A	COSMOS 1244	12297	USSR	12 FEB	104.8	83.0	1005	961			
1981 013B		12298	USSR	12 FEB	104.7	83.0	999	957			
1981 016A	COSMOS 1247	12303	USSR	19 FEB	711.1	06.3	37009	2952			
1981 016C		12311	USSR	19 FEB	703.5	06.3	36764	2886			
1981 016F		12984	USSR	19 FEB	710.3	06.4	37033	2962			
1981 016G		12985	USSR	19 FEB	710.1	06.4	37292	2682			
1981 016H		12992	USSR	19 FEB	711.0	06.4	37022	2996			
1981 017A	ROKUS 1	12997	JAPAN	21 FEB	96.0	31.3	592	542			
1981 017B		12308	JAPAN	21 FEB	96.0	31.3	592	541			
1981 019A	COSMOS 1248	12309	US	21 FEB	1436.1	0.5	35790	35785			
1981 019B		12363	US	21 FEB	850.3	21.0	36342	629			
1981 021A	COSMOS 1249	12319	USSR	6 MAR	103.9	05.0	984	898			
1981 021C		12321	USSR	6 MAR	103.6	05.0	968	884			
1981 022A	COSMOS 1250	12320	USSR	6 MAR	114.4	74.0	1470	1387			
1981 022B	COSMOS 1251	12321	USSR	6 MAR	114.5	74.0	1471	1401			
1981 022C	COSMOS 1252	12322	USSR	6 MAR	114.7	74.0	1470	1415			
1981 022D	COSMOS 1253	12323	USSR	6 MAR	115.0	74.0	1494	1460			
1981 022E	COSMOS 1254	12324	USSR	6 MAR	114.9	74.0	1471	1429			
1981 022F	COSMOS 1255	12325	USSR	6 MAR	115.0	74.0	1470	1443			
1981 022G	COSMOS 1256	12326	USSR	6 MAR	115.2	74.0	1475	1454			
1981 022H	COSMOS 1257	12327	USSR	6 MAR	115.4	74.0	1477	1466			
1981 022J		12328	USSR	6 MAR	117.6	74.0	1693	1455			
1981 023A		12339	US	18 MAR	ELEMENTS NOT AVAILABLE						
1981 023C		12371	US	18 MAR	ELEMENTS NOT AVAILABLE						
1981 027A	RAUUGA 6	12351	USSR	18 MAR	1645.4	0.8	48604	31012			
1981 027F		14194	USSR	18 MAR	1474.5	4.3	36603	36464			
1981 029A - 0293J			USSR	20 MAR	SEE NOTE 30*						
1981 030A - MOLNIYA 3-15		12308	USSR	24 MAR	717.7	04.9	39036	1316		30*	
1981 030D		12353	USSR	24 MAR	732.7	05.1	39803	1285			
1981 031A	COSMOS 1261	12376	USSR	31 MAR	717.4	05.2	37239	3097			

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1981 LAUNCHES (CONT.)											
1981 031D		12384	USSR	31 MAR	707.4	65.2	36788	3054			
1981 031E		12392	USSR	31 MAR	719.1	64.9	37123	3296			
1981 031F		12393	USSR	31 MAR	716.1	64.2	37401	2863			
1981 031G		12394	USSR	31 MAR	710.3	65.2	37296	3685			
1981 033A	COSMOS 1263	12388	USSR	9 APR	108.0	83.0	1873	392			
1981 033B		12389	USSR	9 APR	107.2	83.0	1810	381			
1981 036E		12427	USSR	16 APR	103.3	98.8	1050	773			
1981 037A	COSMOS 1266	12409	USSR	21 APR	103.6	64.8	940	916			
1981 037D		12435	USSR	21 APR	103.4	64.8	919	915			
1981 038A		12419	US	24 APR	ELEMENTS NOT AVAILABLE						
1981 038D		12440	US	24 APR	ELEMENTS NOT AVAILABLE						
1981 041A	COSMOS 1269	12442	USSR	7 MAY	100.8	74.1	803	788			
1981 041B		12443	USSR	7 MAY	100.7	74.1	802	781			
1981 041C		12448	USSR	7 MAY	100.8	74.0	810	786			
1981 041D		12446	USSR	7 MAY	100.5	74.1	791	772			
1981 043A	METEOR 2-1	12454	USSR	14 MAY	102.3	81.3	887	847			
1981 043B		12457	USSR	14 MAY	102.4	81.3	918	827			
1981 043C		12469	USSR	14 MAY	102.4	81.3	921	824			
1981 044A		12458	US	15 MAY	ELEMENTS NOT AVAILABLE						
1981 046A	COSMOS 1271	12464	USSR	19 MAY	97.1	81.2	631	611			
1981 046B		12465	USSR	19 MAY	97.3	81.2	673	589			
1981 049A	GOES-8	12472	US	22 MAY	1435.8	0.1	35786	35778	2209.086,	4*	
									2214.000		
1981 050A	INTELSAT 5 F-1	12474	IFSB	23 MAY	1436.2	0.0	35811	35765			
1981 050U		12497	US	23 MAY	233.3	24.0	12051	298			
1981 053A	COSMOS 1275	12504	USSR	4 JUN	104.8	63.0	1007	958			
1981 053B - 053KH			USSR	4 JUN	SEE NOTE 31*						31*
1981 054A	MELNIVA 3-16	12512	USSR	9 JUN	717.8	64.1	39736	570			
1981 054E		12519	USSR	9 JUN	733.6	64.2	40552	577			
1981 057A	METEORAT 2	12544	ESA	19 JUN	1436.2	0.2	35796	35785			
1981 057B	APPLE	12545	INDIA	19 JUN	1447.7	0.8	36478	35548			
1981 057C		12546	ESA	19 JUN	585.7	10.3	33420	201			
1981 057D		12502	ESA	19 JUN	429.3	10.5	24710	235			
1981 057E		14125	ESA	19 JUN	480.5	10.6	27628	256			
1981 058A	COSMOS 1278	12547	USSR	19 JUN	716.9	67.1	37847	2464			
1981 059D		12561	USSR	19 JUN	724.0	67.5	38189	2469			
1981 059A	NOAA 7	12553	US	23 JUN	101.8	99.1	855	835	136.770, 137.770,	4*	
									1702.500		
1981 059U		12559	US	23 JUN	101.6	99.1	838	830			
1981 069C		12560	US	23 JUN	101.6	99.1	838	830			
1981 060A	MULNIVA 1-50	12550	USSR	24 JUN	717.5	64.9	38586	1755			
1981 060B		12563	USSR	24 JUN	731.9	65.0	39279	1771			
1981 061A	EKRAN 7	12504	USSR	25 JUN	1435.3	4.0	38829	35714			
1981 061F		12561	USSR	25 JUN	1426.7	3.9	36687	36669			
1981 065A	METEOR 1-31	12585	USSR	10 JUL	97.4	97.7	657	609			
1981 066B		12586	USSR	10 JUL	97.5	97.7	654	619			
1981 069A	RADUGA 9	12618	USSR	30 JUL	1435.8	3.9	35994	35560			
1981 069F		12650	USSR	30 JUL	1473.9	3.9	36609	36442			
1981 070A	DE 1	12624	US	3 AUG	410.5	89.5	23334	501	2214.000	4*	
1981 070C		12626	US	3 AUG	94.2	89.9	816	343			

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG		LAUNCH	PERIOD MINUTES	INCLINATION NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
		NUMBER	SOURCE							
1981 LAUNCHES (CONT.)										
1981 070E		12679	US	3 AUG	412.3	89.5	23435	506		
1981 070J		14620	US	3 AUG	409.8	89.6	23056	487		
1981 070K		14621	US	3 AUG	406.9	89.5	23112	510		
1981 071A	COSMOS 1285	12627	USSR	4 AUG	727.0	65.3	37754	3053		
1981 071D		12680	USSR	4 AUG	722.7	65.3	37549	3047		
1981 071E		12993	USSR	4 AUG	727.7	65.2	37772	3069		
1981 071F		13961	USSR	4 AUG	726.3	64.2	38048	2748		
1981 073A	FLISATCOM 3	12638	US	6 AUG	1436.3	4.3	35880	36780		
1981 074A	COSMOS 1287	12636	USSR	6 AUG	113.7	74.0	1511	1452		
1981 074B	COSMOS 1288	12637	USSR	6 AUG	115.5	74.0	1491	1463		
1981 074C	COSMOS 1289	12638	USSR	6 AUG	114.7	74.0	1463	1424		
1981 074D	COSMOS 1290	12639	USSR	6 AUG	114.9	74.0	1463	1439		
1981 074E	COSMOS 1291	12640	USSR	6 AUG	115.1	74.0	1462	1456		
1981 074F	COSMOS 1292	12641	USSR	6 AUG	115.3	74.0	1476	1461		
1981 074G	COSMOS 1293	12642	USSR	6 AUG	114.6	74.0	1463	1407		
1981 074H	COSMOS 1294	12643	USSR	6 AUG	114.4	74.0	1463	1390		
1981 074J		12644	USSR	6 AUG	117.4	74.0	1670	1461		
1981 075A	INTELCOSMOS	12645	USSR	7 AUG	101.7	81.2	887	794		
SULGARIA 1300										
1981 075B		12646	USSR	7 AUG	101.8	81.2	894	796		
1981 076A	GMS 2	12677	JAPAN	10 AUG	1436.2	2.3	35301	35777		
1981 076C		12810	JAPAN	10 AUG	396.0	28.6	22694	217		
1981 077A	COSMOS 1295	12681	USSR	12 AUG	104.7	82.9	1011	944		
1981 077B		12682	USSR	12 AUG	104.9	82.9	1001	943		
1981 081A	COSMOS 1299	12765	USSR	24 AUG	104.0	65.1	979	911		
1981 081B		12808	USSR	24 AUG	103.7	66.1	968	907		
1981 082A	COSMOS 1300	12785	USSR	24 AUG	97.5	82.5	652	622		
1981 082B		12786	USSR	24 AUG	97.6	82.5	657	629		
1981 084A	COSMOS 1302	12791	USSR	28 AUG	100.7	74.0	804	777		
1981 084B		12792	USSR	28 AUG	100.6	74.0	795	774		
1981 084C		12793	USSR	28 AUG	100.7	74.0	790	790		
1981 084D		14810	USSR	28 AUG	101.2	74.0	831	796		
1981 087A	COSMOS 1304	12803	USSR	4 SEP	103.9	82.9	975	905		
1981 087B		12804	USSR	4 SEP	103.7	82.9	970	899		
1981 088A	COSMOS 1305	12818	USSR	11 SEP	263.7	63.2	13013	872		
1981 088B		12817	USSR	11 SEP	262.4	63.1	13544	851		
1981 088C		14131	USSR	11 SEP	251.0	63.1	12924	673		
1981 088F		14404	USSR	11 SEP	97.6	68.0	746	633		
1981 089J		14837	USSR	14 SEP	97.7	65.0	758	542		
1981 091A	COSMOS 1308	12836	USSR	18 SEP	104.7	82.9	1001	962		
1981 091D		12836	USSR	18 SEP	104.7	82.9	994	962		
1981 094A	ORIEL 3	12848	USSR	21 SEP	108.4	82.5	1907	399		
1981 094D		12849	USSR	21 SEP	109.0	82.5	1957	400		
1981 095A	COSMOS 1310	12852	USSR	23 SEP	93.0	65.8	437	409		
1981 095A	SOS 2	12855	US	24 SEP	1436.2	0.0	35791	35785		
1981 096A	COSMOS 1312	12874	USSR	30 SEP	115.9	82.6	1501	1488		
1981 098B		12880	USSR	30 SEP	115.8	82.6	1497	1487		
1981 100A	SME	12887	US	6 OCT	94.7	97.7	508	504		2267.494
1981 100B	USSAT	12888	UK	6 OCT	94.2	97.7	479	474		
1981 100C		12892	US	6 OCT	119.1	99.9	2733	549		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL- NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1981 LAUNCHES (CONT.)											
1981 102A	RADUSA 10	12997	USSR	9 OCT	1436.2	5.7	35800	35772			
1981 102F		14179	USSR	9 OCT	1436.8	3.7	35036	35765			
1981 103A	COSMOS 1015	12903	USSR	13 OCT	97.4	81.2	651	613			
1981 103E		12934	USSR	13 OCT	97.9	81.2	671	603			
1981 105A	MULINIYA 3-17	12915	USSR	17 OCT	717.3	64.5	37965	2391			
1981 105E		12924	USSR	17 OCT	733.2	64.0	36693	2431			
1981 106A	VENERA 10	12927	USSR	30 OCT	HELIOCENTRIC ORBIT						
1981 107A		12939	US	31 OCT	ELEMENTS NOT AVAILABLE						
1981 108A	COSMOS 1017	12932	US	31 OCT	ELEMENTS NOT AVAILABLE						
1981 108E		12933	USSR	31 OCT	718.3	63.2	37636	2760			
1981 108L		12940	USSR	31 OCT	723.3	63.7	37804	2821			
1981 108F		14734	USSR	31 OCT	714.7	63.0	37730	2465			
1981 103F		14735	USSR	31 OCT	709.0	63.2	37213	2708			
1981 109B		14736	USSR	31 OCT	719.4	62.9	36960	1576			
1981 110A	VENERA 14	12938	USSR	4 NOV	HELIOCENTRIC ORBIT						
1981 113A	MULINIYA 1-01	12937	USSR	17 NOV	717.8	64.0	39975	379			
1981 113U		12950	USSR	17 NOV	698.7	64.2	38925	491			
1981 114A	NCA JAFUM 11R	12967	US	20 NOV	1436.1	0.0	35793	35780			
1981 114B		13096	US	20 NOV	189.9	27.4	8632	187			
1981 115A	OMASAKA 2	12965	INDIA	20 NOV	94.0	50.0	519	498			
1981 115B		12969	USSR	20 NOV	94.2	50.7	499	456			
1981 116A	COSMOS 1020	12970	USSR	28 NOV	117.2	74.0	1632	1479			
1981 116B	COSMOS 1021	12976	USSR	28 NOV	117.2	74.0	1629	1479			
1981 116C	COSMOS 1022	12977	USSR	28 NOV	117.2	74.0	1627	1479			
1981 116D	COSMOS 1023	12978	USSR	28 NOV	117.1	74.0	1622	1480			
1981 116E	COSMOS 1024	12979	USSR	28 NOV	117.1	74.0	1619	1479			
1981 116F	COSMOS 1025	12980	USSR	28 NOV	117.0	74.0	1614	1480			
1981 116G	COSMOS 1026	12981	USSR	28 NOV	117.0	74.0	1609	1478			
1981 116H	COSMOS 1027	12982	USSR	28 NOV	116.9	74.0	1601	1479			
1981 116V		12993	USSR	28 NOV	117.0	74.0	1657	1484			
1981 117A	COSMOS 1028	12987	USSR	3 DEC	97.5	82.5	653	626			
1981 117B		12988	USSR	3 DEC	97.6	82.5	655	629			
1981 119A	INTELSAT 5 F-3	12994	ITSU	15 DEC	1436.2	0.0	35002	35775			
1981 119B		13007	US	15 DEC	318.7	23.7	17927	239			
1981 120A	RADIS 3	12997	USSR	17 DEC	118.4	83.0	1659	1563			
1981 120B	RADIS 2	12998	USSR	17 DEC	119.5	83.0	1682	1647			
1981 120C	RADIS 5	12999	USSR	17 DEC	119.4	83.0	1664	1646			
1981 120D	RADIS 7	13000	USSR	17 DEC	119.3	83.0	1661	1635			
1981 120E	RADIS 4	13001	USSR	17 DEC	119.1	83.0	1650	1622			
1981 120F	RADIS 6	13002	USSR	17 DEC	118.9	83.0	1657	1578			
1981 120G		13003	USSR	17 DEC	120.3	83.0	1776	1650			
1981 122A	MARCS-A	13019	ESA	20 DEC	1436.1	0.0	35803	35774			
1981 122B	CAT 4	13011	USA	20 DEC	599.7	10.6	34095	271			
1981 122C		13025	USA	20 DEC	941.9	19.4	19349	265			
1981 123A	MULINIYA 1-02	13012	USSR	23 DEC	717.8	63.3	38018	1735			
1981 123B		13016	USSR	23 DEC	695.3	63.4	37659	1648			
1982 LAUNCHES											
1982 601A	COSMOS 1301	13027	USSR	7 JAN	1436.0	74.0	885	760			

OBJECTS IN ORBIT

INFORM NATIONAL	DESIGNATION	NAME	CATEGORY	NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN- NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES	
	1962 LAUNCHES (CONT.)												
	1962 0010		USSR	13028	7 JAN	100.0	74.1	801	764				
	1962 0016		USSR	13029	7 JAN	100.7	73.9	801	784				
	1962 0030		USSR	13030	7 JAN	100.4	74.0	797	755				
	1962 0034		USSR	13033	14 JAN	104.3	82.9	1014	904				
	1962 0035		USSR	13034	14 JAN	104.3	82.9	1008	957				
	1962 0044		US	13036	16 JAN	1430.2	0.0	38802	35774				
	1962 0048		US	13088	16 JAN	354.1	27.1	20820	199				
	1962 0060		US	13103	21 JAN	ELEMENTS NOT AVAILABLE							
	1962 0060		US	13104	21 JAN	ELEMENTS NOT AVAILABLE							
	1962 0066		US	13108	21 JAN	ELEMENTS NOT AVAILABLE							
	1962 006F		US	13102	21 JAN	ELEMENTS NOT AVAILABLE							
	1962 007A		USSR	13042	23 JAN	91.4	74.0	348	341				
	1962 009A	ENNAF 0	JSSR	13056	5 FEB	1441.1	3.5	36011	35756				
	1962 009B		USSR	13059	6 FEB	838.2	48.3	29401	1614				
	1962 009F		USSR	14117	5 FEB	1420.1	3.3	35739	35441				
	1962 012A		USSR	13066	17 FEB	144.7	82.9	1013	947				
	1962 012B		USSR	13066	17 FEB	194.0	82.9	1035	947				
	1962 013A		USSR	13067	17 FEB	77.3	81.2	840	619				
	1962 013B		USSR	13068	17 FEB	77.4	81.2	859	604				
	1962 014A		US	13069	20 FEB	1430.2	0.0	35802	35776				
	1962 014B		US	13130	25 FEB	330.9	27.0	17233	186				
	1962 015A		USSR	13076	26 FEB	717.7	63.8	38251	2099				
	1962 015B		USSR	13075	26 FEB	730.8	63.8	38029	2167				
	1962 016A		USSR	13080	3 MAR	718.0	66.6	37880	2484				
	1962 016B		USSR	13090	3 MAR	708.9	66.6	37492	2424				
	1962 017A	INTECON 3-14	USSR	13093	6 MAR	1446.2	0.0	36604	35772				
	1962 017B		US	13080	6 MAR	ELEMENTS NOT AVAILABLE							
	1962 017C		US	13089	6 MAR	ELEMENTS NOT AVAILABLE							
	1962 020A	NOVIZONT 5	USSR	13092	15 MAR	1430.2	3.2	35794	35782				
	1962 020B		USSR	13090	15 MAR	1460.1	3.2	36365	36144				
	1962 023A	NOVIZONT 5-15	JSSR	13107	24 MAR	717.7	64.9	39074	1274				
	1962 023B		USSR	13116	24 MAR	732.3	68.0	39806	1260				
	1962 024A	USSMJS 1344	JSSR	13110	24 MAR	104.8	82.9	1008	955				
	1962 024B		JSSR	13111	24 MAR	104.7	82.9	1011	951				
	1962 025A	USSMJS 1345	USSR	13113	25 MAR	104.0	82.5	957	937				
	1962 025B		USSR	13114	25 MAR	104.0	82.5	950	937				
	1962 025A	USSMJS 1345	USSR	13119	31 MAR	94.2	74.0	497	482				
	1962 025B		USSR	13119	31 MAR	94.2	74.0	496	461				
	1962 027A	USSMJS 1348	USSR	13120	31 MAR	97.4	81.2	650	613				
	1962 027B		USSR	13121	31 MAR	97.4	81.2	671	600				
	1962 029A	USSMJS 1349	USSR	13124	7 APR	718.4	63.0	38168	2217				
	1962 029B		USSR	13107	7 APR	705.4	63.0	37445	2296				
	1962 030A	USSMJS 1349	USSR	13127	8 APR	104.3	82.9	1010	963				
	1962 030B		USSR	13128	8 APR	104.7	82.9	999	963				
	1962 031A	INSAF-1A	UDIA	13129	10 APR	1434.2	0.1	35936	35562			UX*	
	1962 031B	SAFUF-7	USSR	13138	19 APR	91.2	51.6	338	333			EX*	
	1962 033A	USSMJS 1350	USSR	13148	19 APR	SEE NOTE							
	1962 037A	USSMJS 1354	USSR	13148	20 APR	106.8	74.0	803	790				
	1962 037B		USSR	13149	20 APR	100.7	74.0	804	781				
	1962 037C		USSR	14011	26 APR	101.3	74.0	839	800				

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1982 LAUNCHES (CONT.)											
1982 039A	COSMOS 1350	13153	USSR	5 MAY	97.0	81.2	601	623			
1982 040A	COSMOS 1357	13160	USSR	6 MAY	114.0	74.0	1477	1399			
1982 040B	COSMOS 1358	13161	USSR	6 MAY	114.0	74.0	1479	1413			
1982 040C	COSMOS 1359	13162	USSR	6 MAY	115.0	74.0	1478	1430			
1982 040D	COSMOS 1360	13163	USSR	6 MAY	115.2	74.0	1480	1444			
1982 040E	COSMOS 1361	13164	USSR	6 MAY	115.3	74.0	1491	1459			
1982 040F	COSMOS 1362	13165	USSR	6 MAY	115.5	74.0	1493	1468			
1982 040G	COSMOS 1363	13166	USSR	6 MAY	115.7	74.0	1503	1472			
1982 040H	COSMOS 1364	13167	USSR	6 MAY	115.9	74.0	1523	1471			
1982 040J		13168	USSR	6 MAY	117.7	74.0	1675	1482			
1982 041C		13172	US	11 MAY	ELEMENTS NOT AVAILABLE						
1982 043A	COSMOS 1365	13175	USSR	14 MAY	103.7	65.1	951	901			
1982 043B		13176	USSR	14 MAY	103.4	65.1	944	890			
1982 044A	COSMOS 1365	13177	USSR	17 MAY	143.0	2.9	35824	35752			
1982 044F		14114	USSR	17 MAY	143.0	2.8	36139	35391			
1982 045A	COSMOS 1367	13205	USSR	20 MAY	71.7	63.7	38443	1907			
1982 045B		13215	USSR	20 MAY	704.1	64.2	37651	2025			
1982 050A	MULNIYA 1-54	13237	USSR	28 MAY	717.7	64.9	39516	832			
1982 050E		13293	USSR	28 MAY	732.2	65.0	40281	810			
1982 051A	COSMOS 1371	13241	USSR	1 JUN	100.3	74.0	808	787			
1982 051B		13242	USSR	1 JUN	100.7	74.0	809	770			
1982 051C		14398	USSR	1 JUN	101.0	74.1	809	802			
1982 052A	COSMOS 1372	13243	USSR	1 JUN	103.9	64.9	967	913			
1982 052D		13410	USSR	1 JUN	103.0	64.9	938	919			
1982 053A	COSMOS 1375	13269	USSR	6 JUN	105.0	65.0	1010	979			
1982 055B		13260	USSR	6 JUN	104.9	65.8	999	976			
1982 055C		13261	USSR	6 JUN	105.0	65.8	1007	979			
1982 055D		15202	USSR	6 JUN	103.8	65.8	1011	866			
1982 056E		16203	USSR	6 JUN	103.7	65.8	982	888			
1982 055F		13204	USSR	6 JUN	104.4	65.8	985	948			
1982 056G		16206	USSR	6 JUN	105.6	65.3	1066	976			
1982 053H		16206	USSR	6 JUN	105.1	65.3	1015	981			
1982 055J		16207	USSR	6 JUN	106.1	65.8	1139	982			
1982 055K		16208	USSR	6 JUN	104.7	65.8	1019	941			
1982 055L		16209	USSR	6 JUN	104.7	65.8	1003	955			
1982 055M		16210	USSR	6 JUN	104.3	65.8	1000	970			
1982 055N		16211	USSR	6 JUN	105.3	65.8	1032	980			
1982 055A	ACSTAK 5	13209	US	9 JUN	143.0	0.0	35732	35781			
1982 053I		13244	US	9 JUN	411.2	27.4	23668	207			
1982 059A	COSMOS 1378	13271	USSR	10 JUN	97.5	82.5	655	625			
1982 059B		13272	USSR	10 JUN	97.6	82.5	658	625			
1982 064A	COSMOS 1382	13295	USSR	25 JUN	71.0	64.0	37453	2846			
1982 064B		13296	USSR	25 JUN	70.4	64.3	37170	2719			
1982 066A	COSMOS 1383	13301	USSR	29 JUN	105.2	82.9	1025	985			
1982 066B		13302	USSR	29 JUN	105.2	82.9	1022	980			
1982 069A	COSMOS 1386	13303	USSR	7 JUL	104.7	83.0	1005	950			
1982 069B		13364	USSR	7 JUL	104.9	83.0	998	946			
1982 072A	LAUDAT	13367	US	16 JUL	98.8	93.2	701	598	2287.500	4*	
									2265.600		

PROJECTS IN ORBIT

NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	ENCL. NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1982 073A	COSMUS 1308	13375	USSR	21 JUL	114.5	74.0	1472	1391		
1982 073B	COSMUS 1309	13376	USSR	21 JUL	114.7	74.0	1473	1407		
1982 073C	COSMUS 1390	13377	USSR	21 JUL	114.9	74.0	1473	1425		
1982 073D	COSMUS 1391	13378	USSR	21 JUL	115.0	74.0	1473	1441		
1982 073E	COSMUS 1392	13379	USSR	21 JUL	115.2	74.0	1473	1458		
1982 073F	COSMUS 1393	13380	USSR	21 JUL	115.4	74.0	1481	1468		
1982 073G	COSMUS 1394	13381	USSR	21 JUL	115.5	74.0	1494	1472		
1982 073H	COSMUS 1395	13382	USSR	21 JUL	115.9	74.0	1514	1472		
1982 073J		13383	USSR	21 JUL	117.7	74.0	1710	1402		
1982 074A	MULNIYA 1-55	13393	USSR	21 JUL	717.7	64.9	35005	1285		
1982 074D		13390	USSR	21 JUL	696.6	64.8	38122	1281		
1982 075A	COSMUS 1400	13402	USSR	5 AUG	97.4	81.2	641	622		
1982 075B		13403	USSR	5 AUG	97.5	81.2	630	597		
1982 082A	ANIK 0-1	13431	CANADA	20 AUG	1436.1	6.0	35799	35776		
1982 083A	MULNIYA 3-19	13432	USSR	27 AUG	717.9	63.3	39190	1170		
1982 083E		13440	USSR	27 AUG	730.4	63.3	39586	1467		
1982 087A	EIS J	13492	JAPAN	3 SEP	107.2	44.6	1228	967		
1982 087B		13493	JAPAN	3 SEP	105.2	44.6	1010	993		
1982 087C		13510	JAPAN	3 SEP	107.3	44.6	1245	962		
1982 087D		13507	JAPAN	3 SEP	106.3	44.6	1147	964		
1982 092A	COSMUS 1405	13552	USSR	16 SEP	97.0	82.6	661	624		
1982 092B		13553	USSR	16 SEP	97.0	82.6	661	625		
1982 093A	EKRAN 9	13554	USSR	16 SEP	1435.3	1.7	35931	35028		
1982 093F		14115	USSR	16 SEP	1422.9	2.9	35533	35496		
1982 095A	COSMUS 1409	13585	USSR	22 SEP	717.8	64.4	30613	1743		
1982 095B		13591	USSR	22 SEP	707.2	65.0	37981	1852		
1982 095A	COSMUS 1410	13589	USSR	24 SEP	115.9	82.6	1500	1489		
1982 095B		13590	USSR	24 SEP	115.8	82.6	1496	1489		
1982 097A	INTELSAT 5F 5	13595	ITSU	28 SEP	1435.1	0.0	35817	35757		
1982 097B		13599	US	28 SEP	213.0	24.5	10692	227		
1982 099A	COSMUS 1412	13600	USSR	2 OCT	103.9	64.8	987	899		
1982 099E		13653	USSR	2 OCT	103.5	64.8	959	896		
1982 100A	COSMUS 1413	13603	USSR	12 OCT	673.3	64.7	19071	19066		
1982 100B	COSMUS 1414	13606	USSR	12 OCT	675.7	64.7	19188	19070		
1982 100F	COSMUS 1415	13607	USSR	12 OCT	673.5	64.7	19076	19070		
1982 100F		13600	USSR	12 OCT	336.2	52.2	18946	329		
1982 100G		13609	USSR	12 OCT	333.0	52.1	18708	365		
1982 100H		13610	USSR	12 OCT	672.9	64.7	19073	19042		
1982 102A	COSMUS 1417	13617	USSR	19 OCT	104.7	83.0	1007	957		
1982 102B		13619	USSR	19 OCT	104.6	83.0	1002	950		
1982 103A	HORIZUMF 0	13624	USSR	20 OCT	1436.2	2.5	35792	35783		
1982 103E		13630	USSR	20 OCT	1435.5	2.5	35615	35732		
1982 105A	RCA SATCOM-V	13631	US	28 OCT	1436.1	0.1	36749	34524		
1982 105B		13632	US	28 OCT	142.9	20.6	2400	234		
1982 106A		13635	US	30 OCT	1436.1	1.0	35804	35768		
1982 106B		13637	US	30 OCT	1436.1	0.1	35798	35774		
1982 106U		13643	US	30 OCT	1449.0	1.0	36234	35842		
1982 109A	COSMUS 1420	13645	USSR	11 NOV	100.7	74.0	606	775		
1982 109B		13647	USSR	11 NOV	100.6	74.0	602	771		
1982 109C		14227	USSR	11 NOV	100.1	74.0	775	751		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH DATE	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1982 LAUNCHES (CONT.)										
1982 1090		13520	USSR	11 NOV	100.7	74.0	814	789		
1982 1100		13681	US	11 NOV	1436.2	0.0	35791	35795		35*
1982 110C	ARIN C-3	13682	CANADA	12 NOV	1430.1	0.0	35796	35779		35*
1982 1100		13688	US	11 NOV	855.7	23.7	38893	357		
1982 110E		13685	US	11 NOV	855.4	21.4	38905	360		
1982 110A	ABONA II	13687	USSR	20 NOV	1430.3	2.0	35794	35787		
1982 113F		13704	USSR	26 NOV	1475.9	2.0	35853	36471		32*
1982 1100 - 11000										
1982 110A	REFUR 279	13713	USSR	14 DEC	101.9	81.2	837	805		
1982 1100		13714	USSR	14 DEC	101.9	81.2	900	798		
1982 110C		13720	USSR	14 DEC	101.3	91.2	886	805		
1982 110A		13736	US	21 DEC	101.2	98.7	822	809		
1982 1150		13737	US	21 DEC	100.9	98.7	803	800		
1982 110C		13738	US	21 DEC	101.0	98.7	811	802		
1982 1180		13773	US	21 DEC	100.9	98.7	802	801		
1982 110F		13774	US	21 DEC	100.9	98.7	806	798		
1982 121A	COSMOS 1427	13750	USSR	29 DEC	93.5	85.8	469	417		
1982 1210		13751	USSR	29 DEC	92.4	85.8	417	371		
1983 LAUNCHES										
1983 001A	COSMOS 1428	13767	USSR	12 JAN	104.0	82.9	1002	949		
1983 0010		13753	USSR	12 JAN	104.5	82.9	993	949		
1983 001C		13808	USSR	12 JAN	104.3	82.9	980	937		
1983 002A	COSMOS 1429	13751	USSR	19 JAN	115.3	74.0	1517	1454		
1983 002B	COSMOS 1430	13762	USSR	19 JAN	115.6	74.0	1497	1465		
1983 002C	COSMOS 1431	13763	USSR	19 JAN	115.4	74.0	1482	1463		
1983 002D	COSMOS 1432	13764	USSR	19 JAN	115.2	74.0	1455	1451		
1983 002E	COSMOS 1433	13765	USSR	19 JAN	115.0	74.0	1465	1444		
1983 002F	COSMOS 1434	13766	USSR	19 JAN	114.9	74.0	1465	1429		
1983 0020	COSMOS 1435	13767	USSR	19 JAN	114.7	74.0	1466	1413		
1983 002H	COSMOS 1436	13768	USSR	19 JAN	114.8	74.0	1468	1397		
1983 002J		13769	USSR	19 JAN	117.7	74.0	1093	1476		
1983 003A	COSMOS 1437	13770	USSR	20 JAN	97.4	81.2	801	621		
1983 0030		13771	USSR	20 JAN	97.5	81.2	876	599		
1983 004A	IRAS	13777	US	26 JAN	102.9	99.1	906	886		
1983 0040		13778	US	26 JAN	102.4	100.1	837	854		4*
1983 004C		13783	US	26 JAN	102.9	99.1	907	889		
1983 005A	CS-2A	13782	JAPAN	4 FEB	1436.2	0.1	35790	35780		
1983 0050		13785	JAPAN	4 FEB	331.8	29.0	18799	199		
1983 008A		13791	US	9 FEB		ELEMENTS NOT AVAILABLE				
1983 0080		13792	US	9 FEB		ELEMENTS NOT AVAILABLE				
1983 008C		13334	US	9 FEB		ELEMENTS NOT AVAILABLE				
1983 0080		13688	US	9 FEB		ELEMENTS NOT AVAILABLE				
1983 008E		13844	US	9 FEB		ELEMENTS NOT AVAILABLE				
1983 008F		13645	US	9 FEB		ELEMENTS NOT AVAILABLE				
1983 008G		13849	US	9 FEB		ELEMENTS NOT AVAILABLE				
1983 008H		13674	US	9 FEB		ELEMENTS NOT AVAILABLE				
1983 010A	COSMOS 1441	13818	USSR	10 FEB	97.3	81.1	633	624		
1983 010B		13819	USSR	10 FEB	97.3	81.1	679	687		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN- ATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1983 LAUNCHES (CONT.)										
1983 011A	ASUKA-3	13629	JAPAN	20 FEB	93.7	31.5	460	451		
1983 011B		13630	JAPAN	20 FEB	93.6	31.5	460	457		
1983 011U		14500	JAPAN	20 FEB	93.1	31.3	438	409		
1983 011E		14607	JAPAN	20 FEB	90.3	31.7	300	290		
1983 019A	MULNIYA 3-20	13573	USSR	11 MAR	717.8	63.3	35329	2027		
1983 019B		13602	USSR	11 MAR	731.9	63.3	38940	2108		
1983 010A	SKRAY 10	13372	USSR	12 MAR	1515.4	3.1	37517	37131		
1983 010B		13444	USSR	12 MAR	620.4	48.8	36293	139		
1983 010E		13635	USSR	12 MAR	931.8	40.0	31592	122		
1983 010F		14080	USSR	12 MAR	1424.4	2.9	35021	35494		
1983 019A	MULNIYA 1-30	13691	USSR	10 MAR	720.0	63.5	38768	1727		
1983 019B		13697	USSR	10 MAR	732.7	63.7	39343	1744		
1983 020A	ASTRID	13901	USSR	23 MAR	9915.3	79.8	178817	25129		
1983 020B		13910	USSR	24 MAR	104.6	82.9	1010	953		
1983 021A		13917	USSR	24 MAR	144.7	82.9	1001	954		
1983 021B		13923	US	28 MAR	191.2	98.6	827	801		
1983 021C									136.770, 137.770, 4*	
1983 021D									1698.000	
1983 022E		13724	US	20 MAR	100.9	98.7	811	793		
1983 022F		14477	US	23 MAR	100.9	98.7	812	794		
1983 022G		14442	US	23 MAR	99.2	98.8	773	466		
1983 022E		10443	US	28 MAR	90.8	98.8	794	390		
1983 022F		10444	US	28 MAR	97.1	98.6	875	304		
1983 022G		10502	US	28 MAR	98.9	96.7	798	621		
1983 022H		16883	US	28 MAR	100.3	98.7	786	757		
1983 022I		16304	US	28 MAR	98.3	98.6	714	643		
1983 022J		13943	USSR	30 MAR	104.7	83.8	1091	958		
1983 023E		15730	USSR	30 MAR	104.5	83.0	1003	951		
1983 023F		13964	USSR	2 APR	717.3	63.4	39630	717		
1983 023G		13977	USSR	2 APR	899.3	63.3	38703	735		
1983 023H		13969	US	4 APR	1439.2	0.9	35799	35777		2211.000, 35*
1983 023I									2232.500	
1983 023J		13979	US	4 APR	1069.7	0.1	36117	22280		
1983 023K		13971	US	4 APR	803.4	25.5	34347	204		
1983 023L		13972	USSR	6 APR	94.1	65.8	490	452		
1983 027A		13973	USSR	6 APR	93.0	65.8	473	429		
1983 027B		13974	USSR	6 APR	1430.3	1.7	35824	35749		
1983 027C		13980	USSR	6 APR	529.0	48.0	30343	35		
1983 027D		13983	USSR	6 APR	1439.9	1.7	35952	35752		
1983 030A	ACA SATELITE VI	13984	US	11 APR	1436.1	0.0	35803	35771		
1983 030B		13985	US	11 APR	150.0	25.4	3767	304		
1983 030C		13990	US	11 APR	401.7	24.1	23147	165		
1983 031A		13991	USSR	12 APR	100.7	74.0	806	780		
1983 031B		13992	USSR	12 APR	100.8	74.1	801	775		
1983 031C		14012	USSR	12 APR	101.3	74.1	836	803		
1983 033A	RUMIYA 3	14007	INDIA	17 APR	90.5	46.6	792	385		
1983 033B		14063	INDIA	17 APR	90.0	46.0	735	380		
1983 033C		14004	INDIA	17 APR	93.3	46.0	622	351		
1983 033D		14224	INDIA	17 APR	94.5	40.8	638	300		
1983 033E		14225	INDIA	17 APR	95.5	40.4	709	384		
1983 033F		14006	USSR	19 APR	93.3	74.0	479	444		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1983 LAUNCHES (CONT.)											
1983 0340		14007	USSR	19 APR	93.7	74.0		475	430		
1983 0374	COSMOS-1455	14032	USSR	23 APR	97.0	82.5		650	630		
1983 0378		14033	USSR	23 APR	97.0	82.5		657	630		
1983 038A	COSMOS-1456	14034	USSR	25 APR	718.3	80.4		38919	1560		
1983 038E		14041	USSR	25 APR	707.3	80.4		38298	1538		
1983 038H		14297	USSR	25 APR	718.7	80.5		38798	1502		
1983 038J		14301	USSR	25 APR	717.6	83.9		40007	539		
1983 038K		14306	USSR	25 APR	720.0	84.3		39097	795		
1983 041A	GOES 6	14050	US	28 APR	1434.3	0.1		35792	35713	2214.000, 2209.086	4*
1983 041B		14051	US	28 APR	118.3	25.3		2801	407		
1983 041C		14069	US	28 APR	1703.3	1.2		54325	27405		
1983 041D		14196	US	28 APR	040.3	24.2		30290	193		
1983 042A	COSMOS-1457	14057	USSR	6 MAY	104.5	83.0		1010	936		
1983 042B		14059	USSR	6 MAY	104.5	83.0		1008	936		
1983 044A	COSMOS-1461	14064	USSR	7 MAY	99.3	65.0		661	591		
1983 044B	COSMOS-1462		USSR	7 MAY	SEE NOTE			30*			30*
1983 046A	COSMOS-1463	14075	USSR	19 MAY	102.1	82.9		1422	297		
1983 046B		14076	USSR	19 MAY	100.4	82.9		1201	292		
1983 047A	INTELSAT-10	14077	FRG	19 MAY	1430.2	0.1		35004	35772		
1983 047B		14031	US	19 MAY	315.3	23.2		17792	176		
1983 048A	COSMOS-1464	14084	USSR	24 MAY	104.9	82.9		1009	961		
1983 048B		14085	USSR	24 MAY	104.7	82.9		1000	960		
1983 049A		14214	USSR	26 MAY	92.1	50.7		439	314		
1983 051D		14095	US	20 MAY	119.1	72.3		2523	755		
1983 051E		14220	US	20 MAY	100.1	72.5		1211	317		
1983 051F		14227	US	26 MAY	100.3	72.5		1228	320		
1983 053A	VENERA 10	14104	USSR	2 JUN	HELIOCENTRIC ORBIT						
1983 054A	VENERA 10	14107	USSR	7 JUN	HELIOCENTRIC ORBIT						
1983 056A		14112	US	9 JUN	ELEMENTS NOT AVAILABLE						
1983 056B		14113	US	9 JUN	ELEMENTS NOT AVAILABLE						
1983 056C		14113	US	9 JUN	ELEMENTS NOT AVAILABLE						
1983 056D		14144	US	9 JUN	ELEMENTS NOT AVAILABLE						
1983 056E		14145	US	9 JUN	ELEMENTS NOT AVAILABLE						
1983 056F		14145	US	9 JUN	ELEMENTS NOT AVAILABLE						
1983 056G		14180	US	9 JUN	ELEMENTS NOT AVAILABLE						
1983 056H		14181	US	9 JUN	ELEMENTS NOT AVAILABLE						
1983 056I		14181	US	9 JUN	ELEMENTS NOT AVAILABLE						
1983 056J		14129	ESA	10 JUN	1430.1	0.0		35002	35770		
1983 056K	USCAR 10	14129	FRG	10 JUN	099.0	20.4		35437	4018		
1983 056L		14130	ESA	10 JUN	944.2	0.7		34136	260		
1983 056M		14151	USA	10 JUN	129.0	8.5		4054	174		
1983 056N	ATLAS-CZ	14133	CANADA	10 JUN	1435.1	0.0		35797	35773		33*
1983 056C	PALAPA 11	14134	INDONESIA	18 JUN	1430.9	0.8		36314	35291		35*
1983 056D		14135	US	18 JUN	634.7	23.0		35775	370		
1983 056E		14136	US	18 JUN	602.1	25.6		37246	324		
1983 056F		14137	US	20 JUN	883.4	20.4		220	165		
1983 056G		14139	US	20 JUN	ELEMENTS NOT AVAILABLE						
1983 056H	COSMOS-1470	14147	USSR	22 JUN	97.0	82.5		605	626		
1983 056I		14143	USSR	22 JUN	97.6	82.5		604	626		
1983 056J		14154	US	27 JUN	100.9	82.0		634	766		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH DATE	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1983 LAUNCHES (CONT.)										
1983 063B		14155	US	27 JUN	100.9	82.0	834	765		
1983 063C		14222	US	27 JUN	100.3	82.4	792	762		
1983 063D		14223	US	27 JUN	101.3	81.7	808	767		
1983 065A	GALAXY 1	14188	US	28 JUN	1436.3	0.0	38793	36790		
1983 065C		14108	US	28 JUN	540.9	23.5	31025	201		
1983 068A	NONIUM 7	14160	USSR	30 JUN	1436.1	1.2	38799	35774		
1983 065U		14100	USSR	30 JUN	027.3	45.6	35688	122		
1983 066E		14167	USSR	30 JUN	137.4	46.6	25224	196		
1983 066F		15141	USSR	30 JUN	1475.2	1.4	36594	36502		
1983 067A	PRONG 2	14163	USSR	1 JUL			CURRENT ELEMENTS NOT MAINTAINED			
1983 067A	COSMUS 1473	14171	USSR	6 JUL	114.4	74.0	1461	1392		
1983 067B	COSMUS 1474	14172	USSR	6 JUL	114.0	74.0	1401	1409		
1983 069C	COSMUS 1475	14173	USSR	6 JUL	114.8	74.0	1461	1427		
1983 069D	COSMUS 1476	14174	USSR	6 JUL	114.9	74.0	1461	1444		
1983 069E	COSMUS 1477	14175	USSR	6 JUL	115.1	74.0	1463	1459		
1983 069F	COSMUS 1478	14176	USSR	6 JUL	115.3	74.0	1480	1460		
1983 069G	COSMUS 1479	14177	USSR	6 JUL	115.5	74.0	1497	1461		
1983 069H	COSMUS 1480	14178	USSR	6 JUL	115.8	74.0	1518	1461		
1983 069J		14179	USSR	6 JUL	117.4	74.0	1671	1459		
1983 070A	COSMUS 1481	14182	USSR	8 JUL	707.3	68.8	38114	1723		
1983 070C		14191	USSR	8 JUL	708.0	65.8	38023	1847		
1983 070E		14192	USSR	8 JUL	708.7	65.8	38210	1703		
1983 072A		14185	US	14 JUL	718.0	62.9	20479	19884		
1983 073A	MOLNIYA 1-50	14199	USSR	19 JUL	704.7	63.3	20771	727		
1983 073B		14206	USSR	19 JUL	461.0	65.7	39565	144		
1983 075A	COSMUS 1484	14207	USSR	24 JUL	97.1	97.9	653	583		
1983 075B		14208	USSR	24 JUL	97.4	97.9	662	604		
1983 075C		14209	USSR	24 JUL	97.1	97.9	650	584		
1983 075D		14229	USSR	24 JUL	97.7	97.8	678	614		
1983 075E		14631	USSR	24 JUL	97.1	97.8	643	596		
1983 076F		14228	USSR	24 JUL	97.4	97.9	661	603		
1983 077A	TELSTAR 3A	14234	US	28 JUL	1430.0	0.0	35794	35778		
1983 077C		14236	US	28 JUL	630.9	23.2	30486	194		
1983 075A		14237	US	31 JUL			CURRENT ELEMENTS NOT MAINTAINED			
1983 076E		14238	US	31 JUL			CURRENT ELEMENTS NOT MAINTAINED			
1983 079A	COSMUS 1486	14240	USSR	3 AUG	100.7	74.1	801	780		
1983 079B		14241	USSR	3 AUG	100.0	74.1	801	773		
1983 079C		14344	USSR	3 AUG	101.2	74.1	832	797		
1983 079D		14813	USSR	3 AUG	101.3	74.0	837	503		
1983 079E		13750	USSR	3 AUG	100.6	74.1	799	775		
1983 081A	CS-1	14248	JAPAN	5 AUG	1436.2	0.0	35791	36785		
1983 081C		14287	JAPAN	5 AUG	518.1	26.5	29735	243		
1983 084A	COSMUS 1490	14254	USSR	10 AUG	675.7	64.8	19171	19087		
1983 084B	COSMUS 1491	14255	USSR	10 AUG	673.7	64.7	19085	19070		
1983 084C	COSMUS 1492	14256	USSR	10 AUG	676.3	64.8	19160	19153		
1983 084F		14264	USSR	10 AUG	676.3	64.5	19156	19130		
1983 084G		14277	USSR	10 AUG	338.8	52.0	19045	396		
1983 084H		14278	USSR	10 AUG	337.6	52.1	18984	378		
1983 087B		14325	USSR	23 AUG	91.6	72.9	360	340		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1983 LAUNCHES (CONT.)										
1983 088A	RADUGA 15	14307	USSR	25 AUG	1430.2	U.S	35803	35770		
1983 088D		14310	USSR	26 AUG	834.2	48.8	33248	122		
1983 088E		14311	USSR	25 AUG	615.9	47.2	35057	142		
1983 088F		14333	USSR	25 AUG	1478.2	1.3	36609	36492		
1983 089B	INSAT 1B	14318	INDIA	31 AUG	1430.2	U.S	35939	35636		
1983 089C		14524	US	31 AUG	639.0	24.1	36073	319		
1983 090A	MOLNIYA 3-21	14313	USSR	30 AUG	717.6	63.0	39106	1247		
1983 090D		14314	USSR	30 AUG	741.3	63.0	39666	1331		
1983 091C	- 091AC		USSR	31 AUG	SEE NOTE					33*
1983 094A	HCA SAICOM VII	14320	US	8 SEP	1436.2	0.0	35804	35773		
1983 094B		14329	US	8 SEP	127.5	25.5	3732	293		
1983 096E		14375	USSR	14 SEP	84.6	82.3	258	237		
1983 098A	GALAXY 2	14305	US	22 SEP	1436.3	0.0	35791	35789		
1983 098C		14364	US	22 SEP	361.4	23.7	21937	181		
1983 099A	COSMOS 1500	14372	USSR	28 SEP	17.0	92.5	660	629		
1983 099B		14373	USSR	28 SEP	97.6	82.5	660	629		
1983 100A	SKRAY 11	14377	USSR	30 SEP	1436.0	1.2	35794	35773		
1983 100B		14384	USSR	30 SEP	493.8	46.7	28622	120		
1983 100E		14390	USSR	30 SEP	209.0	45.4	14027	826		
1983 100F		14394	USSR	30 SEP	1426.0	2.0	35627	36612		
1983 101A	COSMOS 1501	14380	USSR	30 SEP	93.9	82.9	484	446		
1983 101B		14381	USSR	30 SEP	93.8	82.9	478	440		
1983 101J		15205	USSR	30 SEP	90.7	82.9	314	298		
1983 101K		18204	USSR	30 SEP	71.4	82.9	349	337		
1983 101L		15277	USSR	30 SEP	91.9	82.9	373	361		
1983 101M		18274	USSR	30 SEP	91.7	82.9	363	361		
1983 101N		15425	USSR	30 SEP	92.3	82.9	424	400		
1983 101R		18426	USSR	30 SEP	92.7	82.9	420	394		
1983 103A	COSMOS 1503	14401	USSR	12 OCT	100.9	74.0	605	736		
1983 103B		14402	USSR	12 OCT	100.7	74.1	606	774		
1983 105A	INTELSAT 5 F-7	14421	ITSU	19 OCT	1436.2	0.0	35808	35768		
1983 105B		14423	ESA	19 OCT	193.2	6.4	9226	188		
1983 107G		14674	USSR	21 OCT	89.1	72.8	292	209		
1983 108A	COSMOS 1506	14466	USSR	26 OCT	104.7	82.9	1012	946		
1983 108B		14451	USSR	26 OCT	104.6	82.9	1003	945		
1983 109A	NEFEON 2-10	14432	USSR	28 OCT	101.2	81.2	889	748		
1983 109B		14453	USSR	28 OCT	101.3	81.2	896	740		
1983 109C		14464	USSR	28 OCT	101.2	81.2	886	742		
1983 110A	COSMOS 1507	14455	USSR	29 OCT	92.5	65.1	406	387		
1983 111A	COSMOS 1508	14483	USSR	11 NOV	108.8	82.9	1944	394		
1983 111B		14484	USSR	11 NOV	108.4	82.9	1929	379		
1983 113A		14606	US	18 NOV	101.3	98.6	824	809		
1983 113B		14533	US	18 NOV	101.1	98.7	817	806		
1983 113C		14654	US	18 NOV	101.1	98.7	818	806		
1983 113D		14609	US	18 NOV	101.1	98.7	820	801		
1983 113E		14610	US	18 NOV	101.2	98.7	823	804		
1983 114A	MOLNIYA 1-59	14510	USSR	23 NOV	717.6	63.0	39130	1160		
1983 114B		14620	USSR	23 NOV	699.2	62.9	38305	1128		
1983 115A	COSMOS 1510	14621	USSR	24 NOV	116.0	73.6	1522	1478		
1983 115B		14622	USSR	24 NOV	115.9	73.6	1518	1478		

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH DATE	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1955 LAUNCHES (CONT.)										
1953 110A	MORZUMT 5	14532	USSR	30 NOV	1430.1	0.9	35792	36779		
1953 110B		14537	USSR	30 NOV	277.2	40.5	15303	105		
1953 113L		14533	USSR	30 NOV	257.7	40.6	13905	166		
1953 113F		14540	USSR	30 NOV	1430.7	0.8	35985	35611		
1953 120A	COSMUS 1013	14545	USSR	8 DEC	104.3	82.9	1013	958		
1953 120B		14547	USSR	8 DEC	104.0	82.9	1011	941		
1953 122A	COSMUS 1015	14551	USSR	15 DEC	97.0	82.5	660	630		
1953 122B		14552	USSR	15 DEC	97.0	82.5	659	630		
1953 123A	MULMIYA 3-22	14570	USSR	21 DEC	717.3	64.5	39890	465		
1953 123B		14562	USSR	21 DEC	732.4	64.7	40630	442		
1953 125A	COSMUS 1016	14587	USSR	28 DEC	744.2	66.0	38876	1300		
1953 125B		14596	USSR	28 DEC	705.4	66.1	38456	1295		
1953 127A	COSMUS 1017	14590	USSR	29 DEC	675.7	65.1	19158	19100		
1953 127B		14591	USSR	29 DEC	675.7	65.1	19130	19068		
1953 127C	COSMUS 1021	14592	USSR	29 DEC	673.4	65.1	19141	19000		
1953 127F		14595	USSR	29 DEC	673.1	65.1	19142	18983		
1953 127G		14597	USSR	29 DEC	338.2	52.2	19100	304		
1953 127H		14599	USSR	29 DEC	338.3	52.1	19117	327		

1954 LAUNCHES

1954 001A	COSMUS 1022	14611	USSR	5 JAN	115.4	74.0	1491	1460		
1954 001B	COSMUS 1022	14612	USSR	5 JAN	114.4	74.0	1460	1394		
1954 001C	COSMUS 1024	14613	USSR	5 JAN	114.5	74.0	1460	1409		
1954 001D	COSMUS 1025	14614	USSR	5 JAN	114.7	74.0	1460	1425		
1954 001E	COSMUS 1020	14615	USSR	5 JAN	114.9	74.0	1460	1440		
1954 001F	COSMUS 1027	14616	USSR	5 JAN	115.1	74.0	1460	1457		
1954 001G	COSMUS 1023	14617	USSR	5 JAN	115.3	74.0	1475	1459		
1954 001H	COSMUS 1029	14618	USSR	5 JAN	115.0	74.0	1509	1460		
1954 001I		14619	USSR	5 JAN	117.5	74.0	1679	1461		
1954 003A	COSMUS 1031	14624	USSR	11 JAN	105.0	82.9	1008	977		
1954 003B		14625	USSR	11 JAN	104.9	82.9	1002	969		
1954 005A	55-2A	14659	JAPAN	23 JAN	1435.2	0.0	35790	35780		
1954 005B		14665	JAPAN	23 JAN	531.6	26.4	30510	206		
1954 005C		14713	USSR	26 JAN	36.9	70.4	222	219		
1954 007A	COSMUS 1034	14668	USSR	26 JAN	94.3	65.8	507	457		
1954 007B		14667	USSR	26 JAN	94.0	65.8	490	443		
1954 009A	PHC 14	14670	USSR	29 JAN	102.4	50.1	658	479		
1954 009A		14670	US	31 JAN						
1954 009C		14677	US	31 JAN						
1954 010A	COSMUS 1035	14679	USSR	2 FEB	104.3	83.0	1015	951		
1954 010B		14680	USSR	2 FEB	104.7	83.0	1006	951		
1954 011E		14693	US	6 FEB	99.0	28.2	1147	278		
1954 011F		14694	US	6 FEB	99.9	27.7	1136	306		
1954 011U		14624	US	6 FEB	93.3	27.4	1051	304		
1954 011V		14670	US	6 FEB	93.2	27.9	573	290		
1954 012A		14690	US	5 FEB						
1954 012B		14691	US	5 FEB						
1954 012C		14725	US	5 FEB						
1954 012D		14729	US	5 FEB						

CURRENT ELEMENTS NOT MAINTAINED

ELEMENTS NOT AVAILABLE

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	CATALOG NAME	NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLIN NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1984 LAUNCHES (CONT.)										
1984 012F		14795	US	5 FEB	ELEMENTS NOT AVAILABLE					
1984 012J		15347	US	5 FEB	ELEMENTS NOT AVAILABLE					
1984 012K		15348	US	5 FEB	ELEMENTS NOT AVAILABLE					
1984 012L		15349	US	5 FEB	ELEMENTS NOT AVAILABLE					
1984 013A	COSMUS 1936	14699	USSR	8 FEB	97.6	82.5	603	627		
1984 013B		14700	USSR	8 FEB	97.0	82.5	602	627		
1984 015A	OHZORA	14722	JAPAN	14 FEB	94.3	74.0	680	340		
1984 015C		14723	JAPAN	14 FEB	96.0	74.6	707	340		
1984 016A	KADUGA-14	14724	JAPAN	14 FEB	95.7	74.0	754	340		
1984 016A		14725	USSR	15 FEB	1436.0	0.0	35739	35779		
1984 016D		14742	USSR	15 FEB	408.4	46.9	23492	221		
1984 016E		14743	USSR	15 FEB	636.6	46.8	36046	172		
1984 019A	COSMUS 1538	14759	USSR	21 FEB	100.7	74.0	807	775		
1984 019B		14760	USSR	21 FEB	100.6	74.0	811	766		
1984 019C		15785	USSR	21 FEB	100.9	74.1	806	784		
1984 021A	LAMUSAT-8	14780	US	1 MAR	98.3	98.1	700	699	2287.500*	4*
									2265.500	
1984 021B	UUSAT-2	14781	UK	1 MAR	98.4	98.1	692	676		
1984 021C		14782	US	1 MAR	96.3	100.1	679	483		
1984 022A	COSMUS 1540	14783	USSR	2 MAR	1436.2	1.7	36013	36762		
1984 022B		14788	USSR	2 MAR	619.6	47.2	35253	141		
1984 022E		14789	USSR	2 MAR	635.7	47.4	35994	232		
1984 022F		14948	USSR	2 MAR	1441.8	1.7	36037	35759		
1984 023A	INFELSAT 5 F-8	14786	IFSO	5 MAR	1436.2	0.0	35606	35769		
1984 023U		14787	USA	5 MAR	554.3	11.0	31648	298		
1984 024A	COSMUS 1541	14790	USSR	6 MAR	716.8	63.2	39393	1003		
1984 024D		14796	USSR	6 MAR	709.8	63.5	38899	1060		
1984 027A	COSMUS 1544	14619	USSR	15 MAR	97.0	82.5	600	629		
1984 027b		14820	USSR	15 MAR	1435.3	2.0	35785	35795		
1984 028U	ERHAN-12	14825	USSR	16 MAR	627.9	46.8	35415	407		
1984 028E		14829	USSR	16 MAR	624.8	46.8	35334	316		
1984 028F		15139	USSR	16 MAR	1419.8	2.1	35568	35365		
1984 029A	MULNIYA 1-60	14825	USSR	16 MAR	717.7	64.5	39848	501		
1984 029D		14630	USSR	16 MAR	731.0	64.7	40525	478		
1984 031A	COSMUS 1946	14867	USSR	29 MAR	1436.1	0.7	35907	36667		
1984 031D		14887	USSR	29 MAR	566.9	45.3	32280	345		
1984 031E		14868	USSR	29 MAR	618.1	45.3	36141	173		
1984 031F		14951	USSR	29 MAR	1448.4	0.7	36084	35969		
1984 032C		15345	USSR	3 APR	90.7	61.6	312	309		
1984 033A	COSMUS 1947	14884	USSR	4 APR	718.3	64.3	38848	1534		
1984 033B		14894	USSR	4 APR	706.9	64.7	38298	1499		
1984 034B	LDEF	14898	US	6 APR	94.1	28.5	475	474		35*
1984 034L		14936	USSR	19 APR	90.7	73.9	316	306		
1984 034M		14937	USSR	19 APR	91.7	74.1	370	349		
1984 035A	PRC-15	14999	PRC	8 APR	1436.1	0.8	35814	36768		
1984 035U		14900	PRC	8 APR	629.9	30.8	35437	486		
1984 037A		14930	US	14 APR	ELEMENTS NOT AVAILABLE					
1984 037B		14931	US	14 APR	ELEMENTS NOT AVAILABLE					
1984 041A	HORIZONT-9	14940	USSR	22 APR	1436.1	0.6	35794	35777		

OBJETS IN ORBIT

INTER-NATIONAL DESIGNATION	CATALOG NAME	NUMBER SOURCE	LAUNCH	PERIOD		INCL-NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
				MINUTES	MINUTES						
1984 LAUNCHES (CONT.)											
1984 0410		14943	USSR	22 APR	1460.1	0.5	35305	36205			
1984 041E		14944	USSR	22 APR	471.0	49.1	29940	408			
1984 041F		14945	USSR	22 APR	606.1	46.8	34546	145			
1984 043A	COSMOS 1550	14966	USSR	11 MAY	104.7	83.0	1010	971			
1984 043B		14966	USSR	11 MAY	104.3	83.0	998	974			
1984 046A	COSMOS 1563	14973	USSR	17 MAY	104.7	82.9	1007	968			
1984 046B		14974	USSR	17 MAY	104.6	82.9	998	955			
1984 047A	COSMOS 1554	14977	USSR	19 MAY	676.7	66.1	19176	19082			
1984 047B	COSMOS 1555	14978	USSR	19 MAY	675.7	65.1	19154	19104			
1984 047C	COSMOS 1556	14973	USSR	19 MAY	676.3	69.1	19160	19128			
1984 047F		14984	USSR	19 MAY	675.3	65.1	19176	19073			
1984 047G		15053	USSR	19 MAY	340.1	62.1	19204	316			
1984 047H		15054	USSR	19 MAY	339.6	52.0	19232	260			
1984 049A	SPACENE 1	14946	US	23 MAY	1436.2	0.1	35794	36780			
1984 052A	COSMOS 1559	14998	USSR	26 MAY	115.7	74.0	1509	1468			
1984 052B	COSMOS 1560	14999	USSR	28 MAY	115.5	74.0	1490	1468			
1984 052C	COSMOS 1561	15000	USSR	28 MAY	115.4	74.0	1484	1459			
1984 052D	COSMOS 1562	15001	USSR	28 MAY	115.2	74.0	1476	1461			
1984 052E	COSMOS 1563	15002	USSR	28 MAY	115.0	74.0	1474	1436			
1984 052F	COSMOS 1564	15003	USSR	28 MAY	114.3	74.0	1474	1422			
1984 052G	COSMOS 1565	15004	USSR	28 MAY	114.7	74.0	1474	1406			
1984 052H	COSMOS 1566	15006	USSR	28 MAY	117.7	74.0	1472	1392			
1984 053A	COSMOS 1567	15009	USSR	30 MAY	93.1	65.0	441	409			
1984 054G		15043	USSR	1 JUN	89.7	72.8	272	251			
1984 055A	COSMOS 1569	15027	USSR	6 JUN	719.0	65.1	39250	1162			
1984 055D		15030	USSR	6 JUN	706.9	65.5	38065	1151			
1984 059A	COSMOS 1570	15041	USSR	8 JUN	100.8	74.1	807	786			
1984 056B		15032	USSR	8 JUN	100.7	74.1	808	776			
1984 056C		15033	USSR	8 JUN	101.3	74.1	832	805			
1984 056D		15757	USSR	8 JUN	100.6	74.1	800	771			
1984 059A		15039	US	13 JUN	718.0	62.6	20287	20080			
1984 059B		15040	US	13 JUN	367.6	62.6	20584	656			
1984 062A	COSMOS 1574	15055	USSR	21 JUN	104.3	83.0	1006	964			
1984 062B		15056	USSR	21 JUN	104.7	83.0	937	962			
1984 063A	RADEKA 15	15057	USSR	22 JUN	1436.2	0.6	35796	35781			
1984 063D		15075	USSR	22 JUN	572.0	46.7	32760	133			
1984 063E		15076	USSR	22 JUN	802.2	47.1	28800	299			
1984 063F		15093	USSR	22 JUN	1394.2	0.5	35027	34897			
1984 063C		15071	US	25 JUN	ELEMENTS NOT AVAILABLE						
1984 067A	COSMOS 1577	15077	USSR	27 JUN	104.7	83.0	1010	953			
1984 067B		15078	USSR	27 JUN	104.6	82.9	995	957			
1984 068A	COSMOS 1578	15080	USSR	28 JUN	103.7	50.7	1575	296			
1984 068B		15081	USSR	28 JUN	103.0	60.7	1809	201			
1984 069A	COSMOS 1579	15085	USSR	29 JUN	103.9	65.1	981	905			
1984 069D		15330	USSR	29 JUN	103.6	65.0	964	893			
1984 071A	COSMOS 1581	15095	USSR	3 JUL	720.9	63.4	38590	1919			
1984 071U		15098	USSR	3 JUL	705.6	63.7	38027	1726			
1984 072A	METLOR 2-11	15099	USSR	5 JUL	104.0	82.5	959	937			
1984 072B		15100	USSR	5 JUL	104.0	82.5	957	937			

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATEGORY NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHz)	NOTES
1984 LAUNCHES (CONT.)										
1984 0700		18173	USSR	24 JUL	30.7	72.9	310	290		
1984 0704	MONTGOMERY	18174	USSR	1 AUG	1430.2	0.3	35799	35777		
1984 0700		18100	USSR	1 AUG	458.2	47.0	26301	250		
1984 0702		18101	USSR	1 AUG	597.2	40.6	33571	130		
1984 0704		18181	USSR	1 AUG	1435.0	0.2	35859	35089		
1984 0704	COSMOS 1800	18147	USSR	2 AUG	716.0	54.2	34260	1024		
1984 0705		18109	USSR	2 AUG	705.7	64.1	38744	1012		
1984 0804	OMS J	18192	JAPAN	2 AUG	1430.3	0.2	35794	35787		
1984 080C		18107	JAPAN	2 AUG	540.9	29.2	31357	187		
1984 081A	ESA 2	18108	ESA	4 AUG	1430.2	0.1	36102	35472		
1984 081B	TELECOM 1A	18109	FRANCE	4 AUG	1430.2	0.0	35805	35769		
1984 081C		18109	ESA	4 AUG	520.0	0.9	29907	179		
1984 081D		18100	ESA	4 AUG	000.2	7.2	33780	601		
1984 0820		18292	USSR	6 AUG	90.7	72.9	310	294		
1984 083A	COSMOS 1800	18107	USSR	7 AUG	92.9	03.0	428	405		39*
1984 083B	USSR			7 AUG	SEE NOTE					
1984 084A	COSMOS 1800	18171	USSR	8 AUG	115.9	82.6	1499	1491		
1984 084B		18172	USSR	8 AUG	115.9	82.6	1497	1489		
1984 085A	MULNIYA 1-01	18192	USSR	10 AUG	717.7	63.0	39040	1300		
1984 085B		18109	USSR	10 AUG	731.1	65.9	34054	1353		
1984 086A	CC-1	18199	US	16 AUG	939.4	2.8	49669	1122	2271.000.	4*
									2091.200	
1984 088D	IRM	18200	FRG	16 AUG	2653.4	27.0	113813	402		
1984 088C	UKS	18201	UK	16 AUG	2659.0	26.9	113417	1002		
1984 088D		18202	US	16 AUG	134.3	28.9	4071	543		
1984 088E		18203	US	16 AUG	139.7	28.8	4815	552		
1984 089F		18200	US	16 AUG	920.5	20.3	49652	307		
1984 089A	MULNIYA 1-02	18214	USSR	24 AUG	717.8	63.6	39615	739		
1984 089D		18223	USSR	24 AUG	739.0	63.6	40643	751		
1984 090A	CHRYM 10	18219	USSR	24 AUG	1430.4	2.1	35809	35776		
1984 090D		18224	USSR	24 AUG	197.0	46.7	6457	104		
1984 090C		18220	USSR	24 AUG	980.9	46.7	33661	126		
1984 091A		18226	US	28 AUG	ELEMENTS NOT AVAILABLE					
1984 091B		18227	US	28 AUG	ELEMENTS NOT AVAILABLE					
1984 093B	SOJ 4	18233	US	31 AUG	1430.2	0.0	35801	35774		35*
1984 093C	SYNCOM 1A-2	18230	US	31 AUG	1430.2	1.8	35804	35770		35*
1984 093D	TELESTAR JC	18237	US	1 SEP	1430.1	0.0	35791	35762		35*
1984 093E		18244	US	31 AUG	277.2	27.2	15101	308		
1984 093F		18245	US	31 AUG	67.0	22.8	35431	393		
1984 093G		18240	US	1 SEP	667.0	24.8	37453	398		
1984 095A	COSMOS 1893	18209	USSR	4 SEP	670.7	64.9	19172	19080		
1984 095B		18200	USSR	4 SEP	677.2	64.7	19193	19139		
1984 095C		18201	USSR	4 SEP	675.7	64.7	19180	19077		
1984 095F		18204	USSR	4 SEP	675.9	64.7	19190	19078		
1984 095G		18205	USSR	4 SEP	308.0	52.0	19100	203		
1984 095H		18200	USSR	4 SEP	339.7	51.9	19207	208		
1984 096A	COSMOS 1896	18207	USSR	7 SEP	717.0	62.8	36982	1762		
1984 096B		18270	USSR	7 SEP	703.2	60.1	37917	1714		
1984 097A		18271	US	8 SEP	710.0	63.5	20411	19952		
1984 097B		18272	US	8 SEP	369.3	63.2	20703	559		

VEHICLES IN ORBIT

INSTRUMENT	DESIGNATION	ORBIT	NAME	STATUS	NUMBER	SOURCE	LAUNCH	PERIOD	INCLINATION	APOGEE	PERIGEE	TRANSMITTING	NOTES
								MINUTES	Degrees	KM.	KM.	FREQ. (MHZ)	
	1984 100A	COMMUS	100A	USSR	15274	USSR	13 SEP	104.7	82.9	1012	960		
	1984 100B	COMMUS	100B	USSR	15275	USSR	13 SEP	104.7	82.9	1009	960		
	1984 101A	GALAXY 3		US	15308	US	21 SEP	1436.2	0.1	35777	35778		
	1984 101C	COMMUS	1001	USSR	15390	USSR	27 SEP	90.0	70.0	322	289		
	1984 101A	COMMUS	1001	USSR	15320	USSR	27 SEP	94.4	65.6	311	403		38#
	1984 101B	COMMUS	1002	USSR	15331	USSR	27 SEP	SEE NOTE					
	1984 101A	COMMUS	1002	USSR	15332	USSR	28 SEP	97.7	82.9	604	629		38#
	1984 100A	COMMUS	1003	USSR	15333	USSR	28 SEP	101.9	71.0	830	845		
	1984 100B	COMMUS	1003	USSR	15334	USSR	28 SEP	101.9	71.0	630	644		
	1984 100C	COMMUS	1003	USSR	15335	USSR	28 SEP	101.9	66.6	646	818		
	1984 100D	COMMUS	1004	USSR	15336	USSR	28 SEP	101.9	66.6	631	634		
	1984 101A	COMMUS	1004	USSR	15337	USSR	4 OCT	710.3	62.9	35903	1476		
	1984 101B	COMMUS	1004	USSR	15338	USSR	4 OCT	710.3	62.9	34429	1486		
	1984 1030	COMMUS	1005	US	15324	US	5 OCT	96.8	97.0	600	601		4#
	1984 109A	COMMUS	1006	USSR	15369	USSR	11 OCT	104.7	82.9	1010	940		
	1984 109B	COMMUS	1006	USSR	15370	USSR	11 OCT	104.9	82.9	1007	948		
	1984 110A	COMMUS	1006	US	15362	US	12 OCT	108.7	90.0	1199	1150		
	1984 110B	COMMUS	1006	US	15363	US	12 OCT	96.9	89.0	699	314		
	1984 110C	COMMUS	1006	US	15371	US	12 OCT	95.4	90.1	772	305		
	1984 110D	COMMUS	1006	US	15372	US	12 OCT	95.1	89.4	742	302		
	1984 111A	COMMUS	1006	USSR	15369	USSR	16 OCT	97.0	82.5	632	625		
	1984 111B	COMMUS	1006	USSR	15370	USSR	16 OCT	97.0	82.5	629	629		
	1984 112A	COMMUS	1007	USSR	15376	USSR	31 OCT	104.1	65.0	975	927		
	1984 112B	COMMUS	1007	USSR	15377	USSR	31 OCT	103.9	65.0	755	919		
	1984 1130	COMMUS	1007	CANADA	15383	CANADA	9 NOV	1436.1	0.8	35795	35779		35#
	1984 1131	COMMUS	1007	US	15344	US	10 NOV	1436.2	2.2	35803	35774		35#
	1984 1132	COMMUS	1007	CANADA	15397	CANADA	9 NOV	636.9	25.3	35871	413		
	1984 1133	COMMUS	1007	US	15390	US	10 NOV	277.8	27.1	15100	295		
	1984 114A	SPACELAB 1		US	15388	US	10 NOV	1436.2	0.0	35799	35777		
	1984 114B	SPACELAB 1		ESA	15386	ESA	10 NOV	1436.1	2.1	36799	35778		
	1984 114C	SPACELAB 1		ESA	15389	ESA	10 NOV	636.0	7.7	35917	324		
	1984 114D	SPACELAB 1		ESA	15389	ESA	10 NOV	258.7	7.0	14010	129		
	1984 115A	SPACELAB 1		FRANCE	15391	FRANCE	14 NOV	1436.1	4.7	36031	35939		
	1984 115B	SPACELAB 1		US	15392	US	14 NOV	110.0	21.6	2322	674		
	1984 115C	SPACELAB 1		US	15402	US	14 NOV	640.5	23.3	36479	405		
	1984 117A	SPACELAB 1		USSR	15409	USSR	14 NOV	91.3	72.8	363	321		
	1984 118A	COMMUS	1010	USSR	15390	USSR	19 NOV	104.9	62.9	1011	903		
	1984 118B	COMMUS	1010	USSR	15391	USSR	19 NOV	104.7	62.9	1006	950		
	1984 121L	COMMUS	1003	USSR	15400	USSR	29 NOV	91.3	72.8	337	323		
	1984 122A	COMMUS	1003	US	15423	US	4 DEC	ELLMENTS NOT AVAILABLE					
	1984 123A	COMMUS	1003	US	15427	US	12 DEC	102.0	99.0	802	841		136.770, 137.770, 4#
	1984 123B	COMMUS	1003	US	15449	US	12 DEC	101.7	96.9	631	842		
	1984 123C	COMMUS	1003	US	15441	US	12 DEC	101.9	96.9	632	842		
	1984 124A	COMMUS	1003	USSR	15429	USSR	14 DEC	717.5	93.1	39236	1067		
	1984 124B	COMMUS	1003	USSR	15439	USSR	14 DEC	733.4	93.1	40028	1091		
	1984 125A	COMMUS	1003	USSR	15432	USSR	19 DEC	HELIOCENTRIC ORBIT					
	1984 125B	COMMUS	1003	USSR	15447	USSR	19 DEC	HELIOCENTRIC ORBIT					

OBJECTS IN ORBIT

INTERNATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES	
1984 LAUNCHES (CONT.)											
1984 127A	COSMOS 1615	15440	USSR	20 DEC	93.9	65.8	437	441			
1984 127B		15441	USSR	20 DEC	93.7	65.8	437	427			
1984 129A	VEGA 2	15449	USSR	21 DEC	HELIOCENTRIC ORBIT						
1984 129B		15450	USSR	21 DEC	HELIOCENTRIC ORBIT						
1984 129A		15453	US	22 DEC	ELEMENTS NOT AVAILABLE						
1984 129B		15454	US	22 DEC	ELEMENTS NOT AVAILABLE						
1985 LAUNCHES											
1985 001A	45-13	15464	JAPAN	7 JAN	HELIOCENTRIC ORBIT						
1985 001B		15465	JAPAN	7 JAN	HELIOCENTRIC ORBIT						
1985 003A	60405-1017	15469	USSR	15 JAN	114.0	82.6	1412	1410			
1985 003B	60405-1013	15470	USSR	15 JAN	114.0	82.6	1411	1404			
1985 003C	60405-1019	15471	USSR	15 JAN	113.7	82.6	1411	1380			
1985 003D	60405-1020	15472	USSR	15 JAN	113.8	82.6	1412	1387			
1985 003E	60405-1021	15473	USSR	15 JAN	113.8	82.6	1411	1392			
1985 003F	60405-1022	15474	USSR	15 JAN	113.9	82.6	1411	1397			
1985 004A	MULNIYA J-23	15479	USSR	18 JAN	114.7	82.6	1409	1411			
1985 004B		15481	USSR	18 JAN	717.7	63.4	39834	515			
1985 005B		15499	USSR	18 JAN	91.2	70.0	354	315			
1985 006A	60405-1024	15482	USSR	17 JAN	100.7	74.0	804	783			
1985 006B		15483	USSR	17 JAN	100.8	74.0	804	772			
1985 006C		15496	USSR	17 JAN	100.9	74.1	803	801			
1985 006D		15491	USSR	17 JAN	101.3	74.1	833	803			
1985 007A	60405-1025	15484	USSR	18 JAN	143.0	0.3	35798	35760			
1985 007B		15487	USSR	18 JAN	139.8	0.4	35093	34972			
1985 007C		15488	USSR	18 JAN	137.9	40.7	33614	123			
1985 007E		15489	USSR	18 JAN	140.1	47.0	31030	146			
1985 009A	60405-1026	15494	USSR	24 JAN	97.6	82.6	662	624			
1985 009B		15495	USSR	24 JAN	97.6	82.6	660	624			
1985 010C		15497	USSR	24 JAN	97.9	82.6	659	625			
1985 010E		15493	US	24 JAN	ELEMENTS NOT AVAILABLE						
1985 010F		15494	US	24 JAN	ELEMENTS NOT AVAILABLE						
1985 010G		15495	US	24 JAN	ELEMENTS NOT AVAILABLE						
1985 011A	60405-1027	15500	USSR	1 FEB	104.8	82.9	1017	953			
1985 011B		15500	USSR	1 FEB	104.7	82.9	1009	951			
1985 011C		15500	USSR	6 FEB	11.4	72.8	363	325			
1985 012F		15571	USSR	6 FEB	85.3	72.8	228	199			
1985 013A	60405-1028	15510	USSR	6 FEB	104.0	82.6	954	934			
1985 013B		15517	USSR	6 FEB	104.0	82.6	957	933			
1985 014A		15548	US	8 FEB	ELEMENTS NOT AVAILABLE						
1985 014B		15547	US	8 FEB	ELEMENTS NOT AVAILABLE						
1985 019A	60405-1029	15600	SA	8 FEB	143.1	0.3	37088	34488			
1985 019B	60405-1030	15601	BRAZIL	8 FEB	143.0	0.1	35793	35763			
1985 019C		15602	ESA	8 FEB	135.4	7.0	35879	331			
1985 019A	60405-1029	15574	USSR	21 FEB	143.6	0.1	35793	35786			
1985 019B		15577	USSR	21 FEB	505.5	47.5	29118	165			
1985 019C		15578	USSR	21 FEB	630.5	46.9	35792	163			
1985 019E		15601	USSR	21 FEB	144.6	0.1	36131	35930			

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH DATE	PERIOD MINUTES	INCLINATION	NATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1985 LAUNCHES (CONT.)											
1985 013A	COSMOS 1631	15584	USSR	27 FEB	74.4	65.8		501	474		
1985 013B		15585	USSR	27 FEB	74.3	65.7		501	463		
1985 020A	COSMOS 1633	15592	USSR	5 MAR	77.6	82.5		656	631		
1985 021A	GEOSAT	15595	US	13 MAR	100.6	108.0		814	757		
1985 021B		15596	US	13 MAR	100.5	108.0		813	755		
1985 021C		15613	US	13 MAR	99.6	108.5		787	690		
1985 021D		15614	US	13 MAR	100.1	108.2		783	742		
1985 021E		15615	US	13 MAR	100.9	107.8		645	757		
1985 021F		15616	US	13 MAR	101.5	107.6		920	742		
1985 022A	COSMOS 1634	15597	USSR	14 MAR	104.8	82.9		1010	950		
1985 022B		15598	USSR	14 MAR	104.6	82.9		1001	954		
1985 023A	COSMOS 1635	15617	USSR	21 MAR	115.8	74.1		1511	1472		
1985 023B	COSMOS 1636	15618	USSR	21 MAR	115.6	74.1		1492	1472		
1985 023C	COSMOS 1637	15619	USSR	21 MAR	115.4	74.1		1466	1463		
1985 023E	COSMOS 1638	15621	USSR	21 MAR	115.2	74.1		1478	1454		
1985 023F	COSMOS 1639	15622	USSR	21 MAR	114.9	74.1		1477	1439		
1985 023G	COSMOS 1640	15623	USSR	21 MAR	114.3	74.1		1478	1425		
1985 023H	COSMOS 1641	15624	USSR	21 MAR	114.5	74.1		1477	1410		
1985 023I	COSMOS 1642	15625	USSR	21 MAR	110.0	74.1		1710	1396		
1985 024A	ESRAN 14	15626	USSR	22 MAR	1436.2	0.8		35802	35775		
1985 024B		15630	USSR	22 MAR	1422.5	0.7		35573	35466		
1985 024E		15632	USSR	22 MAR	408.6	40.9		23030	67		
1985 024F		15633	USSR	22 MAR	590.8	46.9		34110	95		
1985 025A	INTELSAT VF10	15629	ITSU	22 MAR	1436.2	0.0		35803	35776		
1985 026B		15631	US	22 MAR	574.0	23.9		32752	249		
1985 027J		15650	USSR	3 APR	91.4	70.3		366	324		
1985 028B	AMR-61	15642	CANADA	13 APR	1436.1	1.8		35795	35779		35*
1985 028C	SYNCOM IV-3	15643	US	12 APR	1436.0	2.7		35814	35754		35*
1985 028D		15644	US	13 APR	824.5	23.2		35299	343		
1985 028E		16229	US	12 APR	266.6	27.1		16649	326		
1985 030A	COSMOS 1646	15653	USSR	19 APR	93.3	63.0		446	426		
1985 031A	COSMOS 1647	15659	USSR	19 APR	89.4	67.1		327	161		
1985 033A	PROTON-10	15661	USSR	25 APR	5783.7	76.8		194734	5975		
1985 033U		15664	USSR	25 APR	5784.8	65.0		200315	420		
1985 034A	GEOSAT 1	15669	US	29 APR	90.5	67.0		309	291		
1985 035A	STAR 1	15677	US	8 MAY	1436.2	0.0		35604	35771		35*
1985 036B	TELLECOM 10	15678	FRANCE	8 MAY	1436.1	0.1		35627	35747		
1985 035C		15679	ESA	8 MAY	830.2	6.8		35601	278		
1985 035D		15680	ESA	8 MAY	437.4	7.5		24949	472		
1985 036L		15734	USSR	15 MAY	21.7	72.8		382	330		
1985 037A	COSMOS 1650	15697	USSR	17 MAY	675.7	64.8		19172	19085		
1985 037B	COSMOS 1651	15698	USSR	17 MAY	675.7	64.8		19138	19120		
1985 037C	COSMOS 1652	15699	USSR	17 MAY	675.9	64.8		19146	19118		
1985 037F		15702	USSR	17 MAY	675.0	64.8		19160	19063		
1985 037G		15714	USSR	17 MAY	340.4	52.1		19219	322		
1985 037H		15715	USSR	17 MAY	339.9	52.2		19207	302		
1985 040A	MULTIPLA 3-24	15735	USSR	29 MAY	717.9	63.0		39340	1018		
1985 040D		15741	USSR	29 MAY	732.2	62.9		40042	1021		
1985 041A	COSMOS 1655	15751	USSR	30 MAY	105.0	62.9		1613	975		

OBJECTS IN ORBIT

INTER- NAZIONALE DESIGNATION	NAME	Catalogue NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1985 041B		15702	USSR	30 MAY	104.9	82.9	1009	971		
1985 042A		15705	USSR	30 MAY	101.5	71.1	898	804		
1985 042B		15772	USSR	30 MAY	101.5	71.1	858	803		
1985 042C		15775	USSR	30 MAY	101.5	60.5	859	800		
1985 042F		15774	USSR	30 MAY	101.4	60.5	858	787		
1985 043A		15807	USSR	11 JUN	717.0	04.3	39472	673		35*
1985 043C		15810	USSR	11 JUN	91.5	82.9	507	192		35*
1985 043E		15811	USSR	11 JUN	707.3	64.5	39075	860		35*
1985 040E		15809	USSR	13 JUN	91.8	72.9	364	339		
1985 047A		15821	USSR	14 JUN	110.0	73.6	1522	1480		
1985 047B		15822	USSR	14 JUN	115.0	73.6	1518	1479		
1985 048C		15824	MEXICO	17 JUN	1436.1	0.5	35796	35778		35*
1985 048C		15825	SA	18 JUN	1436.1	0.5	38247	33326		35*
1985 048B		15826	US	17 JUN	1436.1	0.1	35796	35777		35*
1985 048F		15832	US	17 JUN	635.5	25.2	35763	458		
1985 048G		15836	US	18 JUN	626.4	26.6	35349	463		
1985 049A		15837	US	18 JUN	601.4	25.4	37059	469		
1985 049C		15827	USSR	18 JUN	717.5	82.9	39178	1183		
1985 049C		15830	USSR	18 JUN	724.3	83.0	34471	1231		
1985 050A		15833	USSR	19 JUN	94.3	85.8	509	474		
1985 050C		15834	USSR	19 JUN	94.3	85.8	507	465		
1985 050E		15835	USSR	19 JUN	92.3	85.9	427	396		
1985 050V		15838	USSR	19 JUN	93.0	65.8	430	404		
1985 050E		15839	USSR	19 JUN	92.9	65.8	420	401		
1985 050F		15810	USSR	19 JUN	93.1	85.8	440	408		
1985 050G		15814	USSR	19 JUN	93.9	85.8	461	439		
1985 050H		15815	USSR	19 JUN	93.0	85.8	433	411		
1985 050V		15816	USSR	19 JUN	93.0	85.8	431	407		
1985 050K		15817	USSR	19 JUN	93.7	85.8	467	439		
1985 050L		15820	USSR	19 JUN	93.9	85.8	478	447		
1985 050M		15827	USSR	19 JUN	93.3	85.8	450	424		
1985 050A		15873	USSR	30 JUN	1436.2	0.0	36798	36778		
1985 055E		15874	US	30 JUN	600.5	25.3	34097	309		
1985 056A		15875	USA	2 JUL		HELIOCENTRIC ORBIT				
1985 056B		15876	USA	2 JUL	532.0	7.4	30430	341		
1985 056A		15887	USSR	8 JUL	97.7	82.5	603	527		
1985 0539		15890	USSR	8 JUL	97.6	82.5	602	527		
1985 059E		15920	USSR	10 JUL	90.1	82.4	344	217		
1985 061A	MULNIYA 3-25	15909	USSR	17 JUL	717.7	82.8	39459	891		
1985 061B		15916	USSR	17 JUL	737.9	82.9	40403	939		
1985 064A	COSMOS 1670	15930	USSR	1 AUG	104.1	84.9	975	908		
1985 064B		16213	USSR	1 AUG	103.2	84.9	1081	740		
1985 060A	NINOSZ	15935	US	3 AUG	107.9	89.3	1261	998		
1985 060B	MN5506	15936	US	3 AUG	107.9	89.3	1261	999		
1985 060C		15939	US	3 AUG	107.9	89.8	1261	1000		
1985 060D		15940	US	3 AUG	107.9	89.8	1250	998		
1985 060E		15921	US	3 AUG	107.9	89.8	1259	999		
1985 060F		15920	US	3 AUG	107.5	90.3	1219	1004		
1985 069A	COSMOS 1674	15944	USSR	8 AUG	97.8	82.5	603	625		
1985 069B		15945	USSR	8 AUG	97.9	82.5	661	625		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	ORBITAL PARAMETERS (GEO. DATA)	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1985 0704	MOZDRA 16	3 AUG	1436.4	0.6	35805	35781		
1985 0705		3 AUG	827.0	48.8	36642	134		
1985 0706		6 AUG	630.5	48.6	35814	143		
1985 0707		6 AUG	1472.4	0.6	36531	36455		
1985 0710	COZMOS 1675	12 AUG	719.3	63.3	39464	951		
1985 0710		12 AUG	708.2	63.4	38947	935		
1985 0730	PLANET A	15 AUG	HELIOCENTRIC ORBIT					
1985 0730		14 AUG	HELIOCENTRIC ORBIT					
1985 0740	MOLNIYA 1-24	22 AUG	717.8	62.9	39365	988		
1985 0740		22 AUG	732.4	62.9	40076	996		
1985 0750	COZMOS 1677	23 AUG	1035.9	64.7	1000	893		
1985 0760	AUSSAT-1	27 AUG	1436.2	0.1	35797	35776		35#
1985 0760	AUS-1	27 AUG	1436.1	0.1	35794	35777		35#
1985 0760	YAGUDA 14-1	29 AUG	1436.3	2.7	35793	35760		35#
1985 0760		27 AUG	642.3	26.0	36134	425		
1985 0760		29 AUG	264.9	27.4	15540	367		
1985 0760		29 AUG	638.3	26.6	35913	441		
1985 0770		29 AUG	104.9	71.0	1131	643		
1985 0770		29 AUG	105.2	71.0	1158	644		
1985 0770		29 AUG	104.9	71.0	1130	641		
1985 0770		29 AUG	105.0	71.0	1146	641		
1985 0770		4 SEP	100.7	74.1	604	781		
1985 0770		4 SEP	100.6	74.1	600	776		
1985 0810		17 SEP	91.0	51.6	324	320		
1985 0820	COZMOS 1682	19 SEP	73.3	65.0	496	372		
1985 0830		19 SEP	41.9	72.9	389	340		
1985 0840	COZMOS 1684	24 SEP	717.3	62.9	39624	716		
1985 0840		24 SEP	700.0	63.1	39056	713		
1985 0850		27 SEP	91.8	72.9	368	341		
1985 0850		27 SEP	91.0	72.8	335	307		
1985 0850		27 SEP	91.2	51.6	336	333		
1985 0850		29 SEP	1436.1	0.0	35806	35767		
1985 0870		29 SEP	596.7	23.4	33951	247		
1985 0880		30 SEP	718.3	62.9	39298	1106		
1985 0880		30 SEP	703.6	63.0	38695	957		
1985 0890		2 OCT	93.2	50.7	521	342		
1985 0890		2 OCT	93.1	50.7	515	339		
1985 0890		3 OCT	97.4	97.4	604	569		
1985 0900		3 OCT	97.2	98.0	608	576		
1985 0910	MOLNIYA 3-26	3 OCT	717.3	63.6	39816	539		
1985 0910		3 OCT	90.4	62.7	365	199		
1985 0910		3 OCT	734.0	63.5	40544	600		
1985 0920		3 OCT	ELEMENTS NOT AVAILABLE					35#
1985 0920		3 OCT	ELEMENTS NOT AVAILABLE					36#
1985 0920		3 OCT	ELEMENTS NOT AVAILABLE					
1985 0930		9 OCT	718.0	63.4	20510	19855		
1985 0930		9 OCT	368.3	63.3	20612	668		
1985 0940	COZMOS 1690	9 OCT	113.7	82.6	1415	1378		
1985 0940		9 OCT	114.0	82.6	1414	1408		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATEGORY	NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ. (MHZ)	NOTES
1985 094C	COSMOS 1692		16140	USSR	9 OCT	113.8	82.6	1414	1386		
1985 094D	COSMOS 1693		16141	USSR	9 OCT	113.8	82.6	1413	1391		
1985 094E	COSMUS 1694		16142	USSR	9 OCT	113.9	82.6	1414	1395		
1985 094F	COSMUS 1695		16143	USSR	9 OCT	114.0	82.6	1415	1402		
1985 094G			16144	USSR	9 OCT	114.7	82.6	1468	1413		
1985 094H			16204	USSR	9 OCT	113.9	82.6	1585	1222		
1985 094J			16205	USSR	9 OCT	113.7	82.6	1703	1087		
1985 094K			16206	USSR	9 OCT	114.1	82.6	1436	1391		
1985 094L			16237	USSR	9 OCT	114.0	82.6	1450	1367		
1985 094M			16268	USSR	9 OCT	115.1	82.7	1528	1386		
1985 094N			16269	USSR	9 OCT	114.1	82.6	1425	1402		
1985 094P			16270	USSR	9 OCT	113.8	82.7	1606	1194		
1985 094Q			16271	USSR	9 OCT	113.8	82.7	1606	1194		
1985 094R			16272	USSR	9 OCT	113.8	82.6	1429	1351		
1985 097A	COSMOS 1697		16181	USSR	22 OCT	101.9	71.0	852	846		
1985 097B			16182	USSR	22 OCT	101.8	71.0	647	836		
1985 098A	COSMUS 1698		16183	USSR	22 OCT	717.3	62.9	39557	795		
1985 098B			16186	USSR	22 OCT	707.9	63.1	39675	788		
1985 099A	MULNIYA 1-65		16187	USSR	23 OCT	717.3	63.6	39796	557		
1985 099B			16197	USSR	23 OCT	698.8	63.4	38820	553		
1985 100A	MELFON 3		16191	USSR	24 OCT	109.3	82.5	1207	1178		
1985 100B			16194	USSR	24 OCT	110.2	82.6	1244	1223		
1985 102A	COSMUS 1700		16199	USSR	25 OCT	1436.1	0.9	35614	35761		
1985 102E			16214	USSR	25 OCT	1431.0	0.8	35755	35018		
1985 102F			16215	USSR	25 OCT	630.3	40.9	35742	205		
1985 102G			16216	USSR	25 OCT	623.9	40.6	35462	139		
1985 103A	MULNIYA 1-66		16220	USSR	26 OCT	717.7	62.9	39514	835		
1985 103B			16223	USSR	26 OCT	701.1	62.9	38570	955		
1985 104B	GLUMAR		16231	US	30 OCT	90.4	57.0	304	279		35*
1985 105A	COSMUS 1701		16235	USSR	9 NOV	717.5	63.6	39463	877		
1985 105D			16243	USSR	9 NOV	706.2	63.6	38918	864		
1985 105E			16236	USSR	13 NOV	91.9	72.9	393	345		
1985 105F			16288	USSR	13 NOV	91.9	72.9	407	326		
1985 107A	MADUSA 17		16250	USSR	15 NOV	1436.1	0.7	35794	35777		
1985 107D			16254	USSR	15 NOV	645.8	40.6	36574	165		
1985 107E			16255	USSR	15 NOV	629.9	40.7	36525	99		
1985 107F			16339	USSR	15 NOV	1478.3	0.8	39340	33896		
1985 107A	COSMUS 1703		16262	USSR	22 NOV	97.7	62.5	662	631		
1985 107B			16263	USSR	22 NOV	97.6	62.5	651	629		
1985 109B	MURLES 2		16274	MEXICO	27 NOV	1436.2	2.4	35794	35780		35*
1985 109C	AUSSAT 2		16275	AUSTRL	27 NOV	1436.2	0.0	35794	35781		35*
1985 109D	SATCOM K02		16276	US	28 NOV	1436.2	0.0	35805	35771		35*
1985 109E	ULX TARGET		16277	US	30 NOV	91.6	28.5	358	349		35*
1985 109F			16293	MEXICO	27 NOV	650.8	25.4	36727	267		
1985 109G			16294	AUSTRL	27 NOV	647.7	25.8	36474	362		
1985 109H			16295	US	28 NOV	626.3	26.0	35402	337		
1985 110A	COSMUS 1704		16291	USSR	28 NOV	104.8	92.9	1006	959		
1985 110B			16292	USSR	28 NOV	104.6	82.9	997	956		
1985 111H			16357	USSR	3 DEC	92.3	72.9	466	356		
1985 111E			16370	USSR	3 DEC	98.3	72.9	302	279		

OBJECTS IN ORBIT

INTER-NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL. NATION	APGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1985 LAUNCHES (CONT.)										
1985 113A	COSMUS 1707	16320	USSR	12 DEC	97.7	82.5	662	630		
1986 113B		16327	USSR	12 DEC	97.6	82.5	662	627		
1985 114A		16326	US	13 DEC	95.4	37.1	753	314		
1986 114B		16329	US	13 DEC	95.3	37.1	755	314		
1985 114C		16330	US	13 DEC	95.1	37.1	730	313		
1986 115E		16427	USSR	13 DEC	97.6	82.3	259	246		
1985 115A	COSMUS 1709	16305	USSR	14 DEC	104.3	82.9	1011	953		
1986 116A		16369	USSR	14 DEC	104.7	82.9	1004	951		
1985 117A	MULNIYA 3-27	16393	USSR	24 DEC	717.3	62.9	39695	661		
1986 117F		16492	USSR	24 DEC	732.7	63.0	40432	654		
1985 117H		16411	USSR	24 DEC	90.3	82.8	429	199		
1986 118A	COSMUS 1710	16396	USSR	24 DEC	679.7	64.9	19146	19112		
1985 118B	COSMUS 1711	16397	USSR	24 DEC	678.7	64.9	19152	19106		
1986 118C	COSMUS 1712	16400	USSR	24 DEC	676.3	64.9	19150	19138		
1985 118F		16404	USSR	24 DEC	675.5	64.9	19129	19120		
1986 118A		16440	USSR	24 DEC	340.4	65.1	19091	452		
1985 119L		16440	USSR	24 DEC	340.4	64.9	19091	452		
1986 119A	MELCOM 2-13	16404	USSR	26 DEC	104.0	82.5	968	935		
1985 119B		16409	USSR	26 DEC	104.0	82.5	955	930		
1985 120C		16808	USSR	27 DEC	97.1	82.8	277	178		
1985 1210		16437	USSR	28 DEC	97.0	71.0	843	443		
1986 121E		16434	USSR	28 DEC	97.4	71.0	841	423		
1985 121F		16439	USSR	28 DEC	97.3	71.0	841	420		
1986 121G		16440	USSR	28 DEC	97.2	71.0	839	409		
1986 LAUNCHES										
1986 002A	COSMUS 1716	16449	USSR	9 JAN	115.5	74.0	1490	1462		
1986 002B	COSMUS 1717	16450	USSR	9 JAN	115.3	74.0	1511	1473		
1986 002C	COSMUS 1718	16451	USSR	9 JAN	115.0	74.0	1494	1473		
1986 002D	COSMUS 1719	16452	USSR	9 JAN	115.3	74.0	1483	1453		
1986 002E	COSMUS 1720	16453	USSR	9 JAN	115.1	74.0	1482	1438		
1986 002F	COSMUS 1721	16454	USSR	9 JAN	115.0	74.0	1482	1424		
1986 002G	COSMUS 1722	16455	USSR	9 JAN	114.8	74.0	1483	1409		
1986 002H	COSMUS 1723	16455	USSR	9 JAN	114.0	74.0	1480	1398		
1986 0029		16457	USSR	9 JAN	117.9	74.0	1695	1478		
1986 003B	SATCOM NO1	16482	US	12 JAN	1430.2	0.1	35793	35783		
1986 003C		16483	US	12 JAN	628.3	27.1	36569	319		
1986 005A	COSMUS 1725	16493	USSR	17 JAN	104.8	82.9	999	969		
1986 005B		16494	USSR	17 JAN	104.7	82.9	991	965		
1986 005A	COSMUS 1720	16495	USSR	17 JAN	97.6	82.5	659	628		
1986 005B		16496	USSR	17 JAN	97.9	82.5	658	628		
1986 007A	RADUGA 16	16497	USSR	17 JAN	1430.1	0.9	35805	35769		
1986 007B		16500	USSR	17 JAN	600.7	46.8	36665	234		
1986 007C		16501	USSR	17 JAN	647.7	47.1	36583	253		
1986 008A	COSMUS 1727	16514	USSR	23 JAN	104.3	82.9	1013	958		
1986 008B		16511	USSR	23 JAN	104.7	83.0	999	962		
1986 010A	PRC 14	16020	PRC	1 FEB	1430.2	0.1	35788	35780		
1986 010B		16028	PRC	1 FEB	631.1	30.6	35559	428		
1986 011A	COSMUS 1729	16627	USSR	1 FEB	718.0	65.0	39668	695		

INTER-
SUBJECTS IN ORBIT

NATIONAL DESIGNATION	NAME	NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCL- NATION	APUGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1986 LAUNCHES (CONT.)										
1986 011F		16630	USSR	1 FEB	75.7	63.0	39007	087		
1986 013A	USSR 1741	16631	USSR	7 FEB	84.7		263	233		
1986 014A		16671	US	7 FEB	ELEMENTS NOT AVAILABLE					
1986 014B		16672	US	7 FEB	ELEMENTS NOT AVAILABLE					
1986 014C		16622	US	9 FEB	CURRENT ELEMENTS NOT MAINTAINED					
1986 014D		16623	US	9 FEB	CURRENT ELEMENTS NOT MAINTAINED					
1986 014E		16624	US	9 FEB	CURRENT ELEMENTS NOT MAINTAINED					
1986 014F		16625	US	9 FEB	CURRENT ELEMENTS NOT MAINTAINED					
1986 014G		16630	US	9 FEB	ELEMENTS NOT AVAILABLE					
1986 014H		16631	US	9 FEB	ELEMENTS NOT AVAILABLE					
1986 015A	COSMOS 1732	16593	USSR	11 FEB	110.0	73.0	1523	1478		
1986 015B		16594	USSR	11 FEB	110.9	73.0	1518	1478		
1986 016A	65-42	16597	JAPAN	12 FEB	1430.1	0.6	35790	35770		
1986 016B		16598	JAPAN	12 FEB	1430.0	30.0	1847	199		
1986 016C		16600	JAPAN	12 FEB	630.3	27.9	35760	213		
1986 017A	614	16607	USSR	19 FEB	91.3	51.0	305	331		
1986 018A	COSMOS 1733	16611	USSR	19 FEB	97.3	82.5	060	628		
1986 019B		16612	USSR	19 FEB	47.0	62.5	057	629		
1986 019A	9701 1	16613	FRANCE	22 FEB	101.3	98.7	922	822		
1986 019B	Viking	16614	SWEDEN	22 FEB	201.0	98.7	13623	820		
1986 019C		16615	USA	22 FEB	101.2	98.7	530	799		
1986 019D		16616	USA	22 FEB	101.4	98.7	631	819		
1986 021A	COSMOS 1735	16620	USSR	27 FEB	92.3	65.0	417	401		
1986 022A	60402 1-13	16643	USSR	13 MAR	91.3	51.0	300	331		
1986 024A	COSMOS 1735	16647	USSR	21 MAR	104.4	65.0	1011	922		
1986 024B		16648	USSR	21 MAR	89.4	65.9	287	236		
1986 024C	024AA		USSR	21 MAR	SEE NOTE					40*
1986 024D	024AB	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024E	024AC	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024F	024AD	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024G	024AE	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024H	024AF	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024I	024AG	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024J	024AH	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024K	024AI	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024L	024AJ	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024M	024AK	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024N	024AL	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024O	024AM	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024P	024AN	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024Q	024AO	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024R	024AP	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024S	024AQ	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024T	024AR	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024U	024AS	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024V	024AT	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024W	024AU	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024X	024AV	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024Y	024AW	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 024Z	024AX	16649	USSR	25 MAR	93.0	73.4	420	414		
1986 027A	COSMOS 1736	16607	USSR	4 APR	140.2	1.2	35836	35739		
1986 027B		16670	USSR	4 APR	647.0	47.1	36620	212		
1986 027C		16671	USSR	4 APR	650.0	47.4	36700	250		
1986 027E		16676	USSR	4 APR	1474.1	1.3	36056	36397		
1986 029C		16694	USSR	15 APR	CURRENT ELEMENTS NOT MAINTAINED					
1986 029E		16696	USSR	15 APR	CURRENT ELEMENTS NOT MAINTAINED					
1986 029F		16697	USSR	15 APR	CURRENT ELEMENTS NOT MAINTAINED					
1986 029G		16698	USSR	15 APR	CURRENT ELEMENTS NOT MAINTAINED					
1986 029H		16714	USSR	15 APR	CURRENT ELEMENTS NOT MAINTAINED					
1986 030A	COSMOS 1741	16631	USSR	18 APR	100.7	74.0	608	779		
1986 030B		16642	USSR	18 APR	100.9	74.0	602	774		
1986 031A	MOLNIYA 3-23	16683	USSR	18 APR	717.0	63.0	39780	574		
1986 031B		16684	USSR	18 APR	88.9	62.8	224	174		
1986 031D		16630	USSR	18 APR	733.5	63.0	40554	575		
1986 033C		16739	USSR	14 MAY	95.1	72.9	659	384		
1986 033D		16740	USSR	14 MAY	91.9	72.9	405	333		
1986 033E		16741	USSR	14 MAY	96.1	72.9	422	377		

OBJECTS IN ORBIT

INTER- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	TRANSMITTING FREQ.(MHZ)	NOTES
1986 033F		16742	USSR	14 MAY	72.2	72.9	411	353		
1986 034A	COSMOS 1743	16744	USSR	14 MAY	72.0	72.9	401	340		
1986 0344		16719	USSR	15 MAY	97.0	82.0	603	627		
1986 0344		16720	USSR	15 MAY	97.0	82.0	602	627		
1986 035C		16742	USSR	21 MAY	91.2	51.0	338	326		
1986 0360		16754	USSR	21 MAY	89.9	62.8	326	212		
1986 036F		16755	USSR	21 MAY	91.3	62.8	333	287		
1986 037A	COSMOS 1749	16727	USSR	23 MAY	104.9	63.0	1009	962		
1986 037C		16723	USSR	23 MAY	104.7	82.9	399	953		
1986 038A		16724	USSR	24 MAY	143.0	0.3	35796	35773		
1986 038U		16732	USSR	24 MAY	142.0	0.3	35552	35409		
1986 038E		16733	USSR	24 MAY	628.0	47.3	35532	326		
1986 039F		15734	USSR	24 MAY	627.1	47.2	35532	249		
1986 039A		16735	USSR	27 MAY	104.0	62.5	368	330		
1986 0393		16735	USSR	27 MAY	104.0	62.5	954	937		
1986 040B		16743	USSR	26 MAY	88.9	82.3	233	204		
1986 040H		16747	USSR	28 MAY	90.1	82.3	332	225		
1986 042K	COSMOS 1748	16758	USSR	0 JUN	115.1	74.0	1467	1452		
1986 042B	COSMOS 1749	16759	USSR	0 JUN	114.4	74.0	1407	1392		
1986 042C	COSMOS 1750	16760	USSR	0 JUN	114.0	74.0	1408	1406		
1986 042D	COSMOS 1751	16761	USSR	0 JUN	115.6	74.0	1503	1465		
1986 042E	COSMOS 1752	16762	USSR	0 JUN	115.4	74.0	1485	1466		
1986 042F	COSMOS 1753	16763	USSR	0 JUN	115.3	74.0	1475	1460		
1986 042G	COSMOS 1754	16764	USSR	0 JUN	114.9	74.0	1468	1436		
1986 042H	COSMOS 1755	16765	USSR	0 JUN	114.8	74.0	1467	1422		
1986 0429		16766	USSR	0 JUN	117.7	74.0	1682	1489		
1986 043A	COSMOS 1756	16767	USSR	0 JUN	88.5	64.9	258	171		
1986 044A	HORIZONT-12	16769	USSR	10 JUN	1436.0	1.4	35807	35760		
1986 044C		16783	USSR	10 JUN	649.5	47.3	36574	350		
1986 044E		16790	USSR	10 JUN	648.4	47.2	36565	308		
1986 044F		16797	USSR	10 JUN	1474.3	1.4	36573	36480		
1986 0450		16817	USSR	11 JUN	63.5	62.3	254	150		
1986 045F		16819	USSR	11 JUN	90.9	82.3	412	229		
1986 0460		16820	USSR	11 JUN	94.5	82.4	734	268		
1986 046A	COSMOS 1759	16791	USSR	12 JUN	97.7	82.5	600	628		
1986 046B		16792	USSR	12 JUN	97.5	82.5	604	626		
1986 047A	COSMOS 1759	16798	USSR	16 JUN	104.3	82.9	1000	965		
1986 0473		16799	USSR	18 JUN	104.5	82.9	990	963		
1986 047A	COSMOS 1760	16300	USSR	19 JUN	72.2	70.0	412	349		
1986 0480		16801	USSR	19 JUN	89.7	70.0	321	197		
1986 049A	MULVIYA 5-1	16302	USSR	19 JUN	718.1	62.9	39747	623		
1986 0493		16303	USSR	19 JUN	92.4	62.8	582	217		
1986 049C		16804	USSR	19 JUN	92.0	62.8	593	209		
1986 049D		16805	USSR	19 JUN	194.3	62.9	40543	620		

INITIAL ELEMENTS OF OBJECTS WHICH WERE LAUNCHED/RECALCULATED AND DECEASED WITHIN THE REPORTING PERIOD

INTE- NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD 4MINUTES	INCLIN- NATION	APOGEE KM.	PERIGEE KM.	NOTES
1982-0336V		16750	USSR	19 APR	99.6	51.0	210	201	
1984-083AA		16604	USSR	7 AUG	88.8	65.0	220	209	
1984-083AB		16605	USSR	7 AUG	91.1	65.1	337	317	
1984-083AC		16606	USSR	7 AUG	90.8	64.0	327	298	
1984-083AD		16672	USSR	7 AUG	93.4	65.0	485	397	
1984-083AF		16574	USSR	7 AUG	91.0	65.1	335	315	
1984-083AG		16675	USSR	7 AUG	92.5	65.0	410	382	
1984-083AP		16705	USSR	7 AUG	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1984-083AR		16707	USSR	7 AUG	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1984-083AS		16705	USSR	7 AUG	81.0	65.0	235	213	
1984-083AU		16719	USSR	7 AUG	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1984-083A*		16712	USSR	7 AUG	93.5	65.0	262	240	
1986-024C		16692	USSR	26 FEB	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-024C		16507	USSR	21 MAR	83.7	65.0	222	197	
1986-024D		16804	USSR	21 MAR	83.4	65.0	268	233	
1986-027B		16603	USSR	4 APR	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-027C		16604	USSR	4 APR	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-028A	COSMOS 1739	16577	USSR	9 APR	87.4	64.9	318	170	
1986-028B		16674	USSR	9 APR	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-029A	COSMOS 1740	16679	USSR	15 APR	92.2	72.9	413	352	
1986-029B		16680	USSR	15 APR	83.9	72.9	346	193	
1986-029M		16715	USSR	15 APR	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-031C		16689	USSR	18 APR	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-032A	PROGRESS 20	16687	USSR	23 APR	91.3	51.6	339	333	
1986-032B		16689	USSR	23 APR	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-033A	COSMOS 1742	16717	USSR	14 MAY	92.2	72.9	416	391	
1986-033B		16718	USSR	14 MAY	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-033G		16743	USSR	14 MAY	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-035A	SAMUZ-FM	16722	USSR	21 MAY	89.7	51.6	224	195	
1986-035B		16723	USSR	21 MAY	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-036A	COSMOS 1744	16724	USSR	21 MAY	90.4	62.8	371	217	
1986-036B		16725	USSR	21 MAY	88.9	62.8	246	192	
1986-036C		16753	USSR	21 MAY	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-036E		16755	USSR	21 MAY	83.6	62.8	224	185	
1986-036G		16757	USSR	21 MAY	89.2	62.8	273	194	
1986-038G		16730	USSR	24 MAY	97.1	51.0	137	129	
1986-038C		16731	USSR	24 MAY	87.6	51.0	154	151	
1986-040A	COSMOS 1740	16737	USSR	28 MAY	89.8	82.3	271	175	
1986-040B		16748	USSR	28 MAY	83.8	82.3	258	178	
1986-040C		16747	USSR	28 MAY	89.0	82.3	232	215	
1986-040E		16744	USSR	28 MAY	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-040F		16750	USSR	28 MAY	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-040G		16746	USSR	28 MAY	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-040J		16760	USSR	28 MAY	90.9	82.3	401	230	
1986-041A	COSMOS 1747	16745	USSR	29 MAY	87.1	70.4	252	204	
1986-041B		16740	USSR	29 MAY	89.1	70.3	270	188	
1986-041C		16743	USSR	19 MAY	90.0	70.4	329	218	
1986-041D		16744	USSR	29 MAY	89.0	70.4	212	201	
1986-041E		16745	USSR	29 MAY	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-041F		16746	USSR	29 MAY	INITIAL ELEMENTS NOT AVAILABLE	INITIAL ELEMENTS NOT AVAILABLE			
1986-043B		16768	USSR	6 JUN	83.5	64.9	238	156	

INITIAL ELEMENTS OF SUBJECTS WHICH WERE LAUNCHED OR RE-ORBITED AND DECEASED WITHIN THE REPORTING PERIOD

NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	PERIOD MINUTES	INCLINATION	APOGEE KM.	PERIGEE KM.	NOTES
1986 044B		16770	USSR	10 JUN	89.1	51.6	182	174	
1986 044C		16771	USSR	10 JUN	89.0	51.6	180	167	
1986 045A	COSMOS 1757	16772	USSR	11 JUN	90.0	82.3	354	165	
1986 045B		16773	USSR	11 JUN	89.3	82.3	296	176	
1986 045C		16916	USSR	11 JUN	89.3	82.3	327	153	
1986 045E		16918	USSR	11 JUN	89.6	82.3	347	161	

NUCLEAR RESEARCH WITHIN THE REPORTING PERIOD

NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	DECAY	NOTES
1979 0070		7179	USSR	30 NOV	17 APR 86	
1974 092A	MULVIYA 3-1	7540	USSR	21 NOV	15 MAY 86	
1976 0088		9007	US	6 JUL	24 APR 86	
1978 0420		10913	US	1 MAY	1 MAY 86	
1979 0174		10634	US	24 FEB	27 JUN 86	
1979 0178K		16297	US	24 FEB	4 MAY 86	
1979 0178L		16304	US	24 FEB	20 MAY 86	
1979 0178V		15337	US	24 FEB	8 JUN 86	
1979 0178W		16381	US	24 FEB	8 MAY 86	
1979 0178D		19423	US	24 FEB	19 JUN 86	
1979 0178E		19424	US	24 FEB	17 APR 86	
1979 0178X		10473	US	24 FEB	19 MAY 86	
1979 0178B		10477	US	24 FEB	29 APR 86	
1979 0178J		13479	US	24 FEB	13 APR 86	
1979 0178H		10317	US	24 FEB	13 APR 86	
1979 0178A		10336	US	24 FEB	11 MAY 86	
1979 0178B		10339	US	24 FEB	11 APR 86	
1979 0178J		10557	US	24 FEB	20 JUN 86	
1979 0178G		10669	US	24 FEB	30 APR 86	
1979 0178V		10502	US	24 FEB	25 JUN 86	
1982 0336K		10492	USSR	19 APR	21 MAY 86	
1982 0336X		10447	USSR	19 APR	13 MAY 86	
1982 0336C		10033	USSR	19 APR	31 MAY 86	
1982 0336D		10210	USSR	19 APR	15 APR 86	
1982 0336H		10235	USSR	19 APR	27 MAY 86	
1982 0336H		10242	USSR	19 APR	9 APR 86	
1982 0336V		10000	USSR	19 APR	7 JUN 86	
1983 001A	CAESAR	10750	USSR	19 APR	19 JUN 86	
1983 001C		14095	USA	26 MAY	6 MAY 86	
1984 0000		14020	US	20 MAY	7 APR 86	
1984 000F		14953	USSR	22 APR	14 MAY 86	
1984 0000		15067	USSR	11 JUN	17 APR 86	
1984 0000		10629	USSR	7 AUG	4 APR 86	
1984 003H		10032	USSR	7 AUG	4 APR 86	
1984 003K		10634	USSR	7 AUG	29 APR 86	
1984 003L		10630	USSR	7 AUG	21 APR 86	
1984 003M		10630	USSR	7 AUG	24 APR 86	
1984 003P		10637	USSR	7 AUG	26 APR 86	
1984 003K		10636	USSR	7 AUG	17 MAY 86	
1984 003J		10040	USSR	7 AUG	5 APR 86	
1984 003I		10042	USSR	7 AUG	4 APR 86	
1984 003U		10051	USSR	7 AUG	13 APR 86	
1984 003V		10052	USSR	7 AUG	13 MAY 86	
1984 003Z		10050	USSR	7 AUG	16 MAY 86	
1984 003AA		10004	USSR	7 AUG	11 APR 86	
1984 003A3		10005	USSR	7 AUG	20 APR 86	
1984 003AC		10000	USSR	7 AUG	11 APR 86	
1984 003AD		10072	USSR	7 AUG	31 MAY 86	
1984 003AF		10074	USSR	7 AUG	20 APR 86	
1984 003AN		10075	USSR	7 AUG	6 JUN 86	
1984 003AH		10009	USSR	7 AUG	28 MAY 86	

OBJECTS DELIVERED WITHIN THE REPORTING PERIOD

INTEGRAL NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	DECAY	NOTES
1984 003AK		16091	USSR	7 AUG	21 MAY 86	
1984 003AP		16705	USSR	7 AUG	1 JUN 86	
1984 003AR		16706	USSR	7 AUG	21 MAY 86	
1984 003AK		16707	JSSR	7 AUG	13 JUN 86	
1984 003AS		16708	USSR	7 AUG	19 JUN 86	
1984 003AU		16710	USSR	7 AUG	31 MAY 86	
1984 003AV		16711	USSR	7 AUG	23 MAY 86	
1984 003AW		16712	USSR	7 AUG	19 JUN 86	
1984 003AX		16713	JSSR	7 AUG	13 MAY 86	
1985 0150		16503	ESA	5 FEB	5 APR 86	
1985 0730		16369	JAPAN	18 AUG	22 MAY 86	
1985 083F		16124	USSR	19 SEP	22 MAY 86	
1985 083F		16143	JSSR	27 SEP	30 APR 86	
1985 085G		16140	JSSR	27 SEP	15 APR 86	
1985 100C		16200	USSR	13 NOV	31 MAY 86	
1985 1050		16289	USSR	13 NOV	7 APR 86	
1985 1110		16350	USSR	3 DEC	4 APR 86	
1986 020A	COSMOS 1734	16518	USSR	26 FEB	20 APR 86	
1986 020C		16692	USSR	26 FEB	27 APR 86	
1986 020D		16593	USSR	26 FEB	30 APR 86	
1986 020A	PROGRESS 20	16640	USSR	19 MAR	21 APR 86	
1986 024C		16507	USSR	21 MAR	27 JUN 86	
1986 024D		16608	USSR	21 MAR	26 JUN 86	
1986 027L		16608	USSR	4 APR	8 APR 86	
1986 027C		16608	USSR	4 APR	5 APR 86	
1986 025A	COSMOS 1735	16577	USSR	9 APR	7 JUN 86	
1986 0280		16670	USSR	9 APR	14 APR 86	
1986 029A	COSMOS 1740	16679	USSR	15 APR	28 APR 86	
1986 029B		16680	USSR	15 APR	27 APR 86	
1986 029H		16692	USSR	15 APR	6 MAY 86	
1986 029J		16700	USSR	15 APR	11 MAY 86	
1986 029K		16701	USSR	15 APR	7 MAY 86	
1986 029M		16710	USSR	15 APR	8 MAY 86	
1986 031C		16605	USSR	18 APR	12 JUN 86	
1986 032A	PROGRESS 20	16687	USSR	23 APR	23 JUN 86	
1986 032B		16688	USSR	23 APR	26 APR 86	
1986 033A	COSMOS 1742	16717	USSR	14 MAY	28 MAY 86	
1986 033B		16718	USSR	14 MAY	29 MAY 86	
1986 033C		16743	USSR	14 MAY	28 JUN 86	
1986 035A	BUYU2 TH	16722	USSR	21 MAY	30 MAY 86	
1986 035B		16723	USSR	21 MAY	24 MAY 86	
1986 036A	COSMOS 1744	16724	USSR	21 MAY	4 JUN 86	
1986 036B		16725	USSR	21 MAY	24 JUN 86	
1986 036C		16753	USSR	21 MAY	5 JUN 86	
1986 036E		16756	USSR	21 MAY	21 JUN 86	
1986 036G		16757	USSR	21 MAY	7 JUN 86	
1986 036H		16750	USSR	24 MAY	26 MAY 86	
1986 039C		16731	USSR	24 MAY	24 MAY 86	
1986 040A	COSMOS 1740	16737	USSR	28 MAY	12 JUN 86	
1986 040J		16738	USSR	28 MAY	2 JUN 86	
1986 040K		16747	USSR	28 MAY	8 JUN 86	

OBJECTS DELETED WITHIN THE REPORTING PERIOD

NATIONAL DESIGNATION	NAME	CATALOG NUMBER	SOURCE	LAUNCH	DECAY	NOTES
1986-040E		16764	USSR	28 MAY	13 JUN 86	
1986 040F		16785	USSR	28 MAY	14 JUN 86	
1986-040G		16766	USSR	28 MAY	13 JUN 86	
1986 040J		16788	USSR	28 MAY	23 JUN 86	
1986-041A	COSMOS-1747	16745	USSR	29 MAY	12 JUN 86	
1986 041B		16746	USSR	29 MAY	25 JUN 86	
1986-041C		16793	USSR	19 MAY	22 JUN 86	
1986 041D		16794	USSR	29 MAY	25 JUN 86	
1986-041E		16799	USSR	29 MAY	14 JUN 86	
1986 041F		16796	USSR	29 MAY	15 JUN 86	
1986-043B		16768	USSR	6 JUN	13 JUN 86	
1986 044B		16770	USSR	10 JUN	12 JUN 86	
1986-044C		16771	USSR	10 JUN	11 JUN 86	
1986 045A	COSMOS 1757	16772	USSR	11 JUN	25 JUN 86	
1986-045B		16773	USSR	11 JUN	13 JUN 86	
1986 045C		16816	USSR	11 JUN	27 JUN 86	
1986-045E		16816	USSR	11 JUN	27 JUN 86	

~~13 271 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1961
OMICRON 1 AND 1961 OMICRON 2. OBJECTS OF THIS SERIES THAT HAVE
DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-
OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~

~~14 102 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1963-014A,
1963 014C, AND 1963 014C. OBJECTS OF THIS SERIES THAT HAVE DECAYED
CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-
YEAR SUMMARY SATELLITE SITUATION REPORT.~~

~~15 10 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1963-047A.
THE OBJECT OF THIS SERIES THAT HAS DECAYED CAN BE FOUND IN THE DECAYED
OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUA-
TION REPORT.~~

~~16 TRANSMITTING ON COMMAND ONLY.~~

~~17 967 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1965 082A.
OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED
OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUA-
TION REPORT.~~

~~18 DEBRIS DISCOVERED IN ORBIT WHICH HAS NOT BEEN IDENTIFIED WITH ANY
LAUNCH OR COUNTRY OF ORIGIN.~~

~~19 79 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1968 091A.
OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED
OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUA-
TION REPORT.~~

~~20 429 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1968 097A.
OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED
OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUA-
TION REPORT.~~

~~21 A MANNED SPACECRAFT WHICH SUCCESSFULLY LANDED ON THE MOON AND RETURNED
TO EARTH.~~

~~108 298 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1969 082A.
1969 082B, 1969 082C, 1969 082D, 1969 082E, 1969 082F, 1969 082G,
1969 082H, 1969 082J, AND 1969 082K. OBJECTS OF THIS SERIES THAT HAVE
DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-
OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~

~~110 347 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1970-025A
AND 1970 026A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN
THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SAT-
ellite SITUATION REPORT.~~

~~112 97 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1970-089A.
OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED
OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUA-
TION REPORT.~~

~~114 102 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1970-091A.
OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED
OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUA-
TION REPORT.~~

~~116 DEBRIS DISCOVERED IN ORBIT WHICH HAS NOT BEEN IDENTIFIED WITH ANY
LAUNCH.~~

~~118 199 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1971 015A.
OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED
OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUA-
TION REPORT.~~

~~FOUNDRIES (CONT)~~

- ~~162 226 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1972 068A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~172 169 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1973 086A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~182 140 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1974 089A, 1974 089B, AND 1974 089C. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~192 199 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1975 004A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~202 96 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1976 067A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~212 139 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1976 077A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~222 14 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1976 106A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~232 31 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1976 120A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~242 58 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1976 126A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~252 161 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1977 065A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~262 60 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1977 121A. THE OBJECT OF THIS SERIES THAT HAS DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~272 186 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1978 026A AND 1978 026B. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~282 48 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1980 030A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~

~~FOOTNOTES (CONT)~~

- ~~29* 69 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1980 049A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~30* 67 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1981 029A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~31* 243 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1981 053A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~32* 31 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1982 115A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~33* 27 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1983 041A. OBJECTS OF THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~34* DEPLOYED FROM SPACE TRANSPORTATION VEHICLE.~~
- ~~36* 49 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1983 044A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~37* 206 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1979 017A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~38* 27 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1984 104A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~39* 46 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1984 083A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~40* 25 OBJECTS HAVE BEEN IDENTIFIED AS HAVING BEEN LAUNCHED WITH 1980 024A. OBJECTS IN THIS SERIES THAT HAVE DECAYED CAN BE FOUND IN THE DECAYED OBJECTS LIST IN THE DECEMBER 31 END-OF-THE-YEAR SUMMARY SATELLITE SITUATION REPORT.~~
- ~~NNN NO NATIONAL NAME.~~